DOCUMENT RESUME

ED 150 252 **UD 017 970**

AUTHOR	Schnare, Ann B.
TITLE	Residential Segregation by Race in U.S. Metropolitan Areas: An Analysis Across Cities and Over Time.
INSTITUTION	Urban Inst., Washington, D.C.
SPONS AGENCY	Department of Housing and Urban Development, Washington, D.C. Office of Policy Development and Research.
PUB DATE	Feb 77
CONTRACT	H-2162R
NOTE	110p.; Not available in hard copy due to print quality of original document
EDRS PRICE	MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS	*Change Agents; Housing Discrimination; Housing Opportunities; Housing Patterns; Minority Groups; *Racial Differences; Racial Factors; *Racial Segregation; *Residential Patterns; *Trend Analysis; *Urban Areas

ABSTRACT

There is a need to understand more clearly the forces that work to generate and maintain a segregated housing market. There is also a need to formulate statistical measures of segregation, so that developments in future years can be assessed against the past. This report was designed with these two objectives in mind. The analysis is primarily concerned with the experience of the 1960's, when the socioeconomic status of minorities was undergoing significant improvement, new civil rights initiative had emerged from the courts, and surveys revealed an apparent weakening in the prejudices of blacks and whites alike. Since the 1960's seemed particularly ripe for an increase in integration, developments within those years provide some telling clues to the prospects for future change. A brief review of recent trends in attitudes, incomes, and policies which might have encouraged the breakdown of segregated living patterns is first provided. Statistics which describe the segregation of urban households in 1960 and 1970 actually show an overall increase in the level of segregation during the ten year period. Social, economic, and market factors that might affect the location of blacks and whites within a housing market are considered. The findings suggest that racial segregation may continue to plague the majority of urban areas. (Author/AM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

CONTRACT NO. H-2162R
TASK ORDER 27

Opinions expressed in this report are those of the author(s) and do not necessarily represent the views of The Urban Institute or its sponsors.

ED150252

Contract Report No. 246-2 February 1977

Residential Segregation by Race in U.S. Metropolitan Areas: An Analysis Across Cities and Over Time

by

Ann B. Schnare

A Report on Research Funded by:
OFFICE OF POLICY DEVELOPMENT AND RESEARCH
U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

UD017970

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY
ERIC
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

THE URBAN INSTITUTE
WASHINGTON, D.C.

ACKNOWLEDGEMENT

The work forming the basis for this report was conducted pursuant to a contract with the Office of Policy Development and Research, U.S. Department of Housing and Urban Development. Opinions expressed are those of the authors and do not necessarily represent the views of the Urban Institute or of the U.S. Department of Housing and Urban Development.

The author benefited from the contributions of Morton L. Isler, David B. Carlson, and Martin P. Levine, the Government Technical Monitor. Albert R. Gillespie provided valuable research assistance.

TABLE OF CONTENTS

	PAGE
ACKNOWLEDGEMENTS	iii
I. INTRODUCTION	1
A. Changing Attitudes, Incomes and Policies	3
B. The Existing Empirical Evidence	5
1. Macro Segregation	5
2. Micro Segregation	7
C. An Analysis of Metropolitan Areas	10
II. CHANGES IN THE LEVEL OF SEGREGATION BETWEEN 1960 AND 1970	12
A. The Distribution of Blacks and Whites	12
B. Measures of Segregation	16
1. Black and White Exposure Rates: 1960-1970	18
a. A Simple Model of Ghetto Growth	20
b. Interpreting Trends	22
c. Sectoral Trends	24
2. Relative Measures of Segregation: 1960-1970	27
C. Summary of Findings	31
III. FACTORS AFFECTING THE LEVEL OF RESIDENTIAL SEGREGATION BY RACE	32
A. Black-White Differences in Income	32
1. Estimating the Expected Distribution of Households	33
2. The Actual and the Expected Distribution of Households	35
3. The Actual and the Expected Rates of Exposure	38
4. Relative Indexes of Segregation	40
5. Summary of Findings	43
B. A Cross-sectional Regression Analysis	43
1. Alternative Explanations for Segregation	44
2. Expected Variation Across Cities	45
3. The Regression Equations	50
4. Summary of Findings	55
IV. CONCLUSIONS	56
REFERENCES	
APPENDIX A - Regional Distributions of Urban Blacks and Whites by Proportion Black in Tract: 1960-1970	62
APPENDIX B - Measures of Segregation for Individual SMSAs: 1960-1970	66
APPENDIX C - Actual and Expected Measures of Segregation for Individual SMSAs: 1960 and 1970	90
APPENDIX D - The Impact of Spanish-American Households on Black-White Measures of Residential Segregation by Race	96

LIST OF TABLES

		PAGE
1.	Distribution of Blacks and Whites Between the Central City and the Suburban Ring: 1960-1974	6
2.	Racial Composition of Central Cities and their Suburban Ring: 1960-1970	6
3.	Trends in Racial Residential Segregation in 109 Central Cities: 1940-1970	9
4.	Black Exposure to Whites: 1960-1970	19
5.	White Exposure to Blacks: 1960-1970	19
6.	Black Exposure to Whites by Neighborhood Type: 1960-1970	26
7.	White Exposure to Blacks by Neighborhood Type: 1960-1970	26
8.	Index of Residential Segregation by Race for Metropolitan Areas: 1960-1970	30
9.	Actual and Expected Exposure of Blacks to Non-Blacks: 1960-1970	39
10.	Actual and Expected Exposure of Non-Blacks to Blacks: 1960-1970	39
11.	Actual and Expected Indexes of Segregation, Black v. Non-Black: 1960-1970	42
12.	Cross-Sectional Regression Equations: 1960-1970	51
B.1.	Aggregate Measures of Segregation for Individual SMSAs: 1960-1970	66
B.2.	Black Exposure to Whites, By Neighborhood Type: 1960-1970	74
B.3.	White Exposure to Blacks, By Neighborhood Type: 1960-1970	82
C.1.	Actual and Expected Rates of Exposure for Individual SMSAs: 1960-1970	90
C.2.	Actual and Expected Indexes of Segregation for Individual SMSAs: 1960-1970	93
D.1.	1970 Indexes of Residential Segregation by Race for All Whites and for Anglo-Whites	98

LIST OF FIGURES

		PAGE
1.	Distribution of Urban Blacks by Proportion Black in Tract: 1970	14
2.	Distribution of Urban Whites by Proportion Black in Tract: 1970	14
3.	Change in the Distribution of Urban Blacks by Proportion Black in Tract: 1960-1970	14
4.	Change in the Distribution of Urban Whites by Proportion Black in Tract: 1960-1970	14
5.	A Hypothetical Pattern of Ghetto Growth	21
6.	Actual and Expected Distribution of Urban Blacks by Proportion Black in Tract: 1970	36
7.	Actual and Expected Distribution of Urban Whites by Proportion Black in Tract: 1970	37
A.1.	Regional Distribution of Urban Whites by Proportion Black in Tract: 1970	62
A.2.	Regional Distributions of Urban Blacks by Proportion Black in Tract: 1970	63
A.3.	Changes in the Regional Distributions of Urban Whites by Proportion Black in Tract: 1960-1970	64
A.4.	Changes in the Regional Distributions of Urban Blacks by Proportion Black in Tract: 1960-1970	65

I. INTRODUCTION

Is it poverty or prejudice that generates and maintains segregated residential patterns in the nation's metropolitan centers? Or is it a combination of the two, in varying proportions in different areas, mixed with a complex of other socio-economic and political forces? Alternatively, will segregation begin to disappear as more and more blacks are drawn into the economic mainstream of American society, or will more affirmative steps be required to insure the integration of urban areas?

These are some of the questions that have swirled through the continuing national debate regarding ways in which public policy can break down the heretofore durable walls of residential segregation by race. Nearly ten years ago, the Kerner Commission declared that the nation seemed stalemated in a position of "two nations, separate and unequal" and warned that until this condition was eliminated, civil unrest would be only the most obvious national cost. Yet today, the majority of blacks and whites continue to live in racially separate neighborhoods, and the existence of segregation remains a policy concern.

There is thus a need to understand more clearly the forces that work to generate and maintain a segregated housing market. There is also a need to formulate statistical measures of segregation, so that developments in future years can be assessed against the past. While the mere existence of segregation would come as no surprise to even the most casual observer of urban areas, variations in its level are much more difficult to quantify and detect.

This report was designed with these two objectives in mind. The analysis is primarily concerned with the experience of the 1960s, when the socio-economic status of minorities was undergoing significant improvement, new civil rights initiatives had emerged from the courts and the Congress, and surveys revealed an apparent weakening in the prejudices of blacks and whites alike. Since the 1960s seemed particularly ripe for an increase in integration, developments within those years should provide some very telling clues to the prospects for future change.

To date, surprisingly little is known about the direction of recent trends in the overall level of segregation, let alone about the factors that have been responsible for those trends. By measuring the level of segregation in different cities and in different periods of time, this research seeks to identify broad social, economic, and institutional factors that are associated with residential segregation by race. A clearer understanding of such factors will enable policy makers to better assess the desirability of alternative responses to the segregation of this nation's blacks.

This introductory chapter begins with a brief review of recent trends in attitudes, incomes and policies which might have encouraged the breakdown of segregated living patterns. It then explores existing evidence pertaining to the actual change in segregation. That review illustrates the need to analyze the location of blacks and whites from a metropolitan point of view, the approach which is to be used in this report. The chapter ends with a description of the research that is presented in this study, along with a summary of its major findings.

CHANGING ATTITUDES, INCOMES AND POLICIES

The 1960s ushered in a series of economic, social and political changes that may have had a dramatic effect on the segregation of urban areas.

Beginning in the early 1960s federal, state, and local governments initiated a series of executive and legislative reforms designed to end overt discrimination in real estate transactions. These efforts eventually led to Title VIII of the 1968 Civil Rights Act, which barred discrimination by race, religion, or national origin in both owner-occupied and rental housing. While this legislation did exempt certain categories of dwellings, these were covered within the year by a U.S. Supreme Court ruling (Jones v. Alfred H. Mayer Co.). These and other attempts to promote equal opportunity in housing probably did not remove more subtle forms of discrimination [2,4,21]. However, by prohibiting many of the overt tactics that had long been used by landlords, real estate brokers, and financial intermediaries to preserve existing racial patterns, the open housing legislation of the 1960s undoubtedly produced a significant increase in the housing opportunities of blacks.

These legislative and judicial reforms were accompanied by a fairly dramatic shift in the attitudes of whites and blacks towards racially integrated neighborhoods. Numerous surveys have found that white prejudice—while always high—has declined from its earlier levels. For example, in 1942, 62 percent of a national sample of whites said they would object if a Negro with the same income and education moved into their block. In subsequent surveys, the number of whites who said they would object fell to 46 percent in 1956 and to 21 percent by the end of the 1960s [8].

Black attitudes towards open housing--while always positive--also appear to have softened. In a 1969 survey, 74 percent of the black respondents indicated that they preferred integrated to predominantly black neighborhoods, compared to 68 percent in 1966 and 64 percent in 1963 [8]. While part of this preference undoubtedly reflects a desire to obtain housing and neighborhood amenities generally unavailable within the ghetto, the increased willingness among blacks to live in biracial neighborhoods--regardless of their underlying motivations--could conceivably have led to a decline in the overall level of segregation.

Dramatic gains among blacks in income and education may have also encouraged integration. Between 1960 and 1970, the ratio of black to white median family income increased from 52 to 61 percent; the black-white ratio of the proportion of young adults completing high school increased from 69 to 78 percent [17]. These relative and absolute gains undoubtedly increased the average black's ability to bid for housing in predominately white neighborhoods. They also served to weaken the economic motivations for segregation among white realtors, lenders, and landlords, and helped to reduce race-related class differentials that may have contributed to whites' reluctance to live in racially mixed areas. Coupled with less hostile attitudes on the part of whites and with court decisions and legislation barring overt discrimination in housing, these trends could have produced a large decline in residential segregation by race. Whether or not they did is a difficult empirical question which this analysis attempts to resolve.

THE EXISTING EMPIRICAL EVIDENCE

In considering housing patterns, a fundamental distinction must first be made between macro and micro segregation. Macro segregation--or centralization--refers to the fact that blacks are typically housed in the central parts of the metropolis. Micro segregation refers to spatial unevenness at the individual neighborhood level. The two phenomena need not occur together; neighborhoods can be segregated with or without centralization. In actuality, however, American housing markets are segregated at both the micro and macro level.

Macro Segregation

The centralization of the nation's blacks is evident from the aggregate data presented in Table 1, which show the distribution of blacks and whites between the cities and their suburban rings. In 1974, 78 percent of all blacks living in urban areas lived in the central city--a figure that is approximately twice as high as the comparable rate for whites. This general pattern occurs in each of the three years depicted, and in each of the four regions of the country. Blacks consistently tend to be over-represented in the city and under-represented in the suburbs.

An examination of the figures in Table 1 also reveals that the centralization of blacks relative to whites has increased in recent years. Between 1960 and 1974 the proportion of urban whites who lived in the central city declined from 47 to 38 percent, reflecting a sustained growth within the suburbs and stability, then decline within the cities. Over the same period of time, the distribution of urban blacks stayed fairly constant. Since 1970 there appears to have been an acceleration

TABLE 1

DISTRIBUTION OF BLACKS AND WHITES BETWEEN THE CENTRAL CITY AND THE SUBURBAN RING: 1960-1974

	1960		1970		1974	
	Whites	Blacks	Whites	Blacks	Whites	Blacks
Central Cities	47.1	77.7	40.8	78.1	38.4	77.1
Suburbs	52.9	22.3	59.2	21.9	61.6	22.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 2

RACIAL COMPOSITION OF CENTRAL CITIES AND THEIR SUBURBAN RINGS 1960-1974

	1960	1970	1974
	Percent Black	Percent Black	Percent Black
Central Cities	16.4	20.5	22.3
Suburbs	4.8	4.6	5.0
SMSA	10.7	11.9	12.5

Sources: Special Studies Series p-20, No. 55, Social and Economic Characteristics of the Metropolitan and Non-Metropolitan Population: 1974 and 1970; Special Studies Series P-23, No. 54, 1975, The Social and Economic Status of the Black Population in the United States, 1974; and Final Report PHC(2)-1, General Demographic Trends for Metropolitan Areas, 1960 to 1970. U.S. Summary.

in the rate of black growth within the suburbs, but that development has had a minor impact on the overall distribution of blacks and whites.

The concentration of blacks revealed by these figures has naturally produced pronounced differences in the racial compositions of city and suburban areas (Table 2). Between 1960 and 1974, the populations of central cities increased from an average of 16 to 22 percent black. Over the same period of time, the proportion black in suburban areas remained at 5 percent, a figure that has been more or less constant since the end of World War II. During the 1960s, three cities achieved a black majority; it has been estimated that by 1980, this number could reach eleven [14].

These statistics suggest a high, and possibly rising level of residential segregation by race. Certainly the racial balance between the cities and the suburbs has deteriorated over time. However, such aggregate data do not reveal the extent to which whites and blacks within the cities and the suburbs live in integrated or segregated neighborhoods. A city in which the two races are randomly dispersed across space is clearly different from one in which the majority of blacks reside in a centrally located ghetto.

Micro Segregation

Changes in the level of micro segregation--or segregation at the individual neighborhood level--are much more difficult to detect and quantify. Most analyses employ a so-called "index of segregation," a statistic which can be used to measure intra-city differences in the distribution of blacks and whites [3,16,24]. Calculation of this kind of index requires data on the racial composition of small geographic areas. As such, it is more or less restricted to tract or city block data from the decennial Census of Housing and Population.

The most extensive analysis of this kind to date--the original work of Karl and Alma Taeuber [16], later extended by Sorenson, Taeuber, and Hollingsworth [13]--is summarized in Table 3. The Taeubers have calculated segregation indexes for 109 different cities from 1940 to 1970. Their index was constructed to range from a minimum of zero to a maximum of 100, where the two extremes represent zero and absolute segregation.[1] A value of zero would occur if each neighborhood in the city had the same proportion black; and a value of 100, if neighborhoods were either all white or all black but not mixed. Values of the index between these two extremes represent the proportion of blacks (or whites) that would have to move to produce a uniform distribution by race.[2]

The Taeubers' analysis reveals that in each year and in each region of the country, the level of segregation was high. In 1970, for example, the index ranged from 52 to 97, with an average equal to 80. However, it also reveals small, but widespread declines in the segregation of this nation's cities. In the North Central states, the average index remained relatively stable between 1940 and 1960, and then declined. In the Northeast and West, the average decreased in both the fifties and the

---

1. If B_i and W_i are the number of blacks and whites in the i^{th} neighborhood, the index is defined by:

$$D = 100 \cdot \left\{ \tfrac{1}{2} \sum_{i=1}^{n} \left| \frac{B_i}{B} - \frac{W_i}{W} \right| \right\}$$

where B and W are the corresponding area or citywide population totals (i.e. $B = \sum_{i=1}^{n} B_i$) and where n is the city's total number of neighborhoods.

2. This interpretation involves one-way moves away from areas of black (or white) over-concentration--a relocation scheme that would leave past units vacant and would require new units to be built. A related index, R, gives the proportion of households who would be involved in a two-way change of residence. This "replacement" index is given by:

$$R = 2p(1-p)D$$

where "p" is the city's proportion black.

TABLE 3

TRENDS IN RACIAL RESIDENTIAL SEGREGATION IN 109 CENTRAL CITIES, BY REGION

A. Average Indexes, 1940-1970

	1970	1960	1950	1940	No. Cities
North East	74.1	78.9	83.7	83.2	(26)
North Central	82.6	88.4	89.9	88.4	(29)
South	84.4	91.0	88.6	84.9	(44)
West	67.9	76.4	83.0	82.7	(10)
All cities	80.0	86.1	87.3	85.2	(109)

B. Proportion of Cities With Declining Indexes

	'60-'70	'50-'60	'40-'50
North East	.85	.92	.38
North Central	.97	.76	.24
South	.89	.20	.11
West	1.00	1.00	.40
All Cities	.91	.60	.24

---

1 Source: Annemette Sorenson, Karl E. Taeuber, and Leslie J. Hollingsworth, Jr., "Indexes of Racial Residential Segregation for 109 Cities in the United States, 1940 to 1970", The Institute for Research on Poverty, University of Wisconsin-Madison, February 1974.

sixties; and in the South, it increased between 1940 and 1960, and then turned down. During the sixties, over 90 percent of all cities examined registered declines in segregation, and averages decreased in all four regions of the country.

Some analysts have used the Taeubers' findings to argue that segregation has decreased in recent years. However, the apparent gains within the cities may simply reflect the peripheral expansion of the ghetto, rather than a fundamental change in the spatial arrangement of households. More important, perhaps, the index depicted in Table 3 refers to cities as opposed to entire metropolitan areas. As such, it does not capture the segregation that exists between the increasingly black metropolitan core and the predominantly white suburban ring. As urban areas expand, it becomes increasingly important to consider segregation from a metropolitan point of view.

AN ANALYSIS OF METROPOLITAN AREAS

To gain a fuller understanding of some of the changes that actually did take place during the 1960s, this analysis examined racial patterns in the nation's metropolitan areas in 1960 and in 1970. The study differs from the Taeubers' analysis in three important ways. The analysis employs an index of segregation that has been shown to be more sensitive to certain changes in the distribution of blacks and whites [24]; the unit of analysis is the SMSA, as opposed to the central city; and neighborhoods are defined by census tracts, as opposed to individual city blocks. The latter modification was necessitated by the fact that block data were generally unavailable for metropolitan areas as a whole.

Chapter II presents a variety of statistics which describe the segregation of urban households in 1960 and 1970. These statistics show an overall increase in the level of segregation during the ten year period. In the majority of housing markets, black population growth was accompanied by a peripheral expansion of the ghetto, a pattern of development which left the average black with a smaller number of whites as neighbors. While the average white was at the same time exposed to a slightly higher proportion of blacks, the vast majority of urban whites continued to live in neighborhoods that were almost entirely white.

Chapter III attempts to identify some of the more important factors that have contributed to residential segregation by race. It begins with an empirical analysis of the extent to which racial differences in income account for the segregation of urban areas. That analysis shows that income differences per se do not explain the pronounced degree of residential segregation by race. The chapter then considers other social, economic, and market factors that might affect the location of blacks and whites within a housing market.

Chapter IV summarizes the principle findings of the analysis, and offers some speculations regarding future developments in segregation.

II. CHANGES IN THE LEVEL OF SEGREGATION BETWEEN 1960 AND 1970

This chapter examines the segregation of blacks and whites in the nation's metropolitan areas in 1960 and 1970. Two primary questions are addressed: what is the nature of segregation, and how did it change over time? To answer these and other related questions, the analysis draws on a number of different statistics that describe the location of blacks and whites within a variety of SMSAs. Combined, these statistics present a picture of a high and consistently rising level of residential segregation by race.

At the outset, it should be stressed that the analysis presented here relies on data that was obtained from the tract reports of the Census of Population and Housing. Neighborhoods are thus defined by census tracts--small geographic areas that house an average of 4,000 people. Like any other study, the results of this analysis are ultimately tied to its choice of an areal unit. However, several analyses have shown that tract data can be substituted for block data with relatively consistent results [16,19].

THE DISTRIBUTION OF BLACKS AND WHITES

One way to describe the segregation of urban blacks is to examine the distribution of blacks and whites across neighborhoods with different racial mixes. Figure 1 depicts the proportion of urban blacks who reside in various types of census tracts, where tracts are classified according to the proportion of their residents which are black. Figure 2 presents equivilent data on the distribution of urban whites.[1] These statistics

1. In all of the figures presented in the text, the term "whites" includes Spanish-American households. Appendix D examines SMSAs with a large Spanish population, and attempts to distinguish Spanish American and Anglo-whites. Since the definition of Spanish households differed in 1960 and 1970, the broader analysis could not rely on the concept of Anglo Whites.

describe the location of blacks and whites in some 238 SMSAs in 1970.[1] This sample of urban areas contained over 74 percent of the nation's blacks and over 68 percent of the nation's whites.

The patterns revealed in Figures 1 and 2 indicate a marked degree of segregation. In 1970, 71 percent of all urban blacks lived in tracts which were over 50 percent black, and 38 percent lived in tracts which were over 90 percent black. In contrast, 65 percent of all urban whites lived in tracts which were less than one percent black. Only 12 percent of all whites and 14 percent of all blacks lived in tracts whose proportion black was between 6 and 30 percent--a broad interval which is roughly consistent with the notion of integrated housing.

The general patterns depicted in Figures 1 and 2 occurred in each region of the country (see Figures A.1 and A.2 in Appendix A). The concentration of blacks was most extreme in the North Central states, where almost half of the area's blacks were in tracts which were more than 90 percent black. The concentration of blacks was least extreme in the West. But even in Western SMSAs, over 63 percent of all blacks lived in tracts which were over 50 percent black, and 72 percent of all whites lived in tracts that were less than one percent black.

Figures 3 and 4 depict the shift in the distributions of blacks and whites between 1960 and 1970. In each graph the solid line refers to the distribution in 1970; and the dotted line, to the distribution in 1960. The sample now consists of 130 SMSAs, which existed and were fully

1. Data were unavailable for 5 SMSAs: Danbury, Connecticut; La Cross, Wisconsin; Nashua, New Hampshire; Owensboro, Kentucky; and Petersburg-Colonial Heights, Virginia.

FIGURE 1

Distribution of Urban Blacks
by Proportion Black in Tract: 1970
(238 SMSAS)

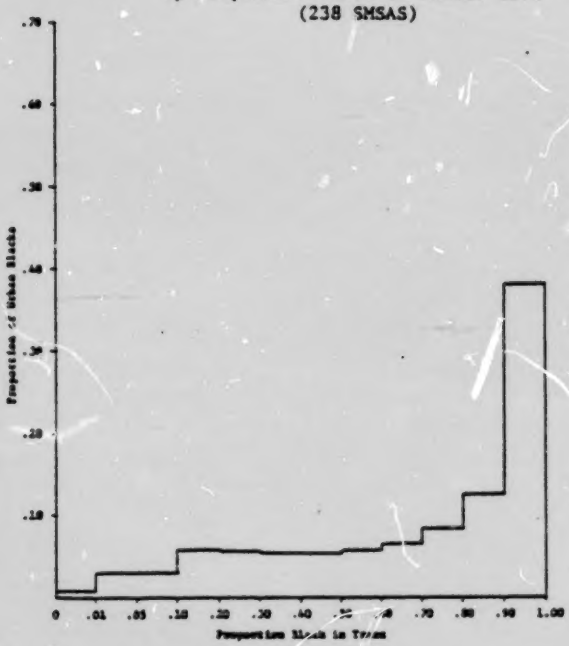


FIGURE 2

Distribution of Urban Whites
by Proportion Black in Tract: 1970
(238 SMSAS)

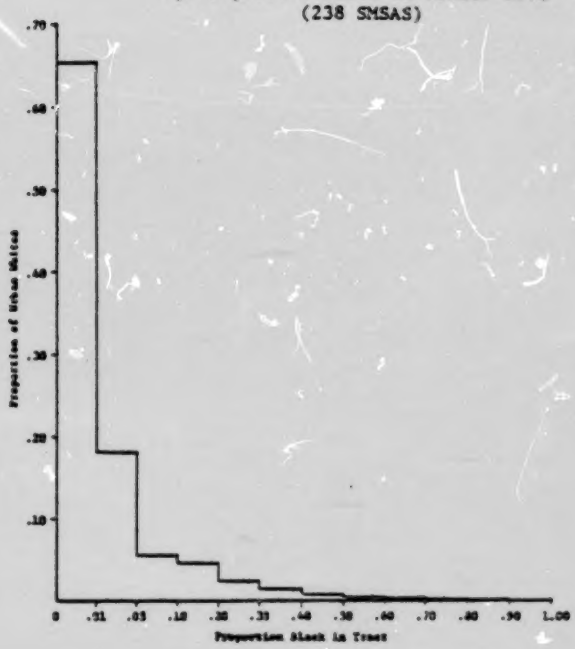


FIGURE 3

Change in the Distribution of Urban Blacks
by Proportion Black in Tract: 1960 and 1970
(130 SMSAS)

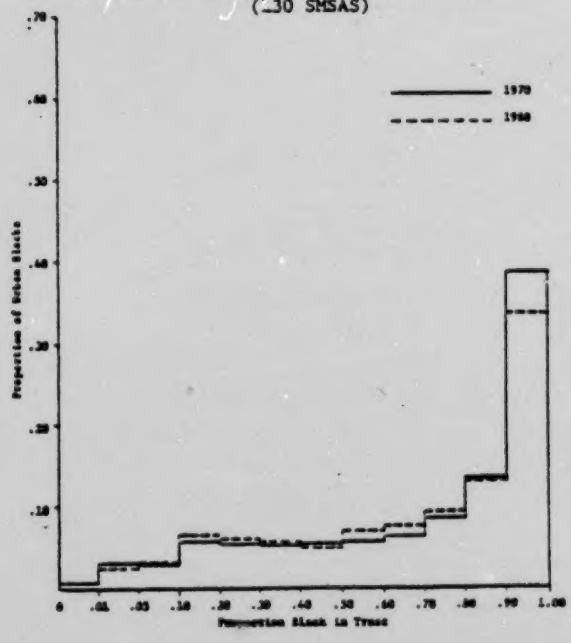
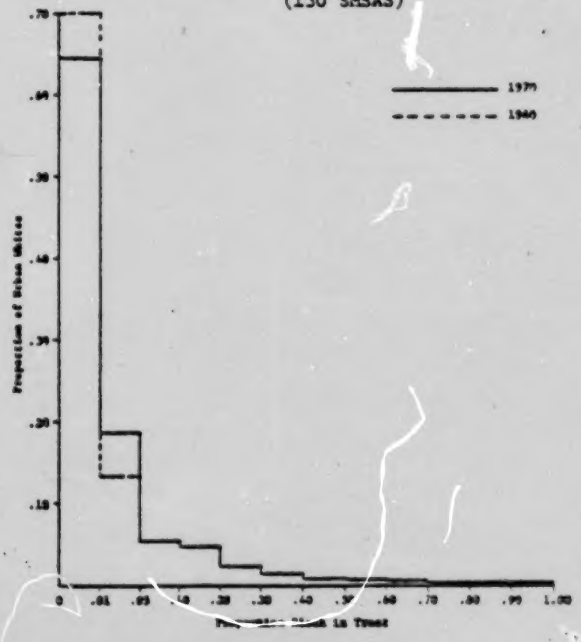


FIGURE 4

Change in Distribution of Urban Whites
by Proportion Black in Tract: 1960-1970
(130 SMSAS)



tracted in both 1960 and 1970.[1] In 1970, these areas housed some 86 percent of all metropolitan blacks and 81 percent of all metropolitan whites.

Between 1960 and 1970 there was a significant increase in the proportion of blacks who lived in tracts that were over 90 percent black--from 33 percent in 1960 to 39 percent in 1970. While there was a concurrent decline in the proportion of blacks in tracts in the 50 to 90 percent range, the overall proportion of blacks in tracts which were over 50 percent black increased from 70 to 72 percent. Over the same period of time, the proportion of blacks who lived in tracts which were between 6 and 30 percent black declined from 16 to 14 percent. These trends suggest a significant rise in the concentration of this country's blacks.

Similar shifts occurred in each region of the country (see Figures A5-A8 in Appendix A). The proportion of blacks who lived in tracts that were over 90 percent black increased from 24 to 26 percent in the Northeast; from 39 to 46 percent in the South; from 12 to 17 percent in the West; and from 42 to 52 percent in the North Central states. Each region experienced a rise in the proportion of blacks in tracts which were over 50 percent black, and a decline in the proportion of blacks in tracts which fell in the 6 to 30 percent range.

In contrast, in 1970 the average white appears to have had a slightly higher proportion of blacks as neighbors. Between 1960 and 1970 the proportion of whites in tracts which were less than one percent black fell from about 70 to 65 percent, while the proportion of whites in tracts which were between one and 5 percent black rose from about 13 to 19

1. A list of these SMSA's can be found in Appendix B.

percent. The distribution of whites across the remaining neighborhood types stayed roughly constant.

This general trend occurred in all regions but the South. In the South, the proportion of whites in tracts which were less than one percent black did not decline. While there was a concurrent gain in the one to 5 percent range, it was caused by a decline in the number of whites in neighborhoods that were over 5 percent black. This shift away from more heavily black tracts meant that the average white had fewer blacks as neighbors—a trend which contrasts with the overall experience of whites in other parts of the country.

MEASURES OF SEGREGATION

While statistics regarding the overall distribution of blacks and whites are useful descriptive devices, more quantitative statistics are required for comparisons of the level of segregation across cities or over time. The remainder of this chapter thus develops two measures of segregation—one absolute, one relative—which can be used to summarize descrepancies in the location of blacks and whites within a given metropolitan area. While the reduction of any complex phenomenon to a single-valued statistic necessarily involves a high degree of abstraction, indexes of this sort provide convenient measures of the overall level of neighborhood segregation.

The analysis begins with the absolute measure and examines changes that have occurred in households' exposure to members of a different racial group. The term "exposure" simply refers to the racial mix of an individual household's neighborhood. Black exposure to whites is the proportion white in the average black's neighborhood; and white exposure

to blacks, the proportion of blacks in the average white's neighborhood.[1] By themselves, exposure rates are fairly direct measures of the physical isolation of households. When the rates of both groups are close to zero, segregation may be said to be high; when the rates of both groups are high, segregation may be said to be low.

These absolute measures of segregation do not control for differences in the racial composition of urban areas. A city which is predominately black can achieve different levels of exposure than can a city which is predominately white. To control for this variation, the second half of the analysis employs a measure of segregation which compares the actual exposure rates of households to the exposure rates that are possible given the racial mix of the population. This relative index of segregation is similar to the one that was used by the Taeubers.[2]

---

1. If an SMSA contains n neighborhoods or census tracts, black exposure to whites is defined by:

$$(1) \quad BX = (1/B)\sum_{i=1}^{n} B_i\left(\frac{W_i}{T_i}\right)$$

where B_i and W_i are the number of blacks and whites in the i^{th} neighborhood, respectively; T_i is the total population of the neighborhood; and B is the SMSA's total number of blacks ($B = \sum_{i=1}^{n} B_i$). White exposure to blacks is defined by:

$$(2) \quad WX = (1/W)\sum_{i=1}^{n} W_i\left(\frac{B_i}{T_i}\right)$$

where W is the SMSA's total number of whites. The exposure rates of blacks and whites are obviously related. Indeed, a simple manipulation of the above formulas shows that:

$$(3) \quad WX/BX = B/W$$

2. See Zoloth [24] for a methodological comparison of the two measures.

Black and White Exposure Rates: 1960-1970

Tables 4 and 5 summarize the exposure rates of blacks and whites for the full sample of 238 SMSAs in 1970, and for the subsample of 130 SMSAs for which comparable data were available in 1960 and 1970. Statistics for individual SMSAs are presented in Table B.1 of Appendix B. As before, data were obtained from the tract reports of the 1960 and 1970 Censuses of Population and Housing. Thus the statistics presented below use the census tract as the basic unit of analysis.

Perhaps the most striking feature of these statistics is the enormous difference in the exposure rates of blacks and whites, which in 1970 averaged about 0.31 for blacks and 0.04 for whites. This means that the average black lived in a tract that was 31 percent white, while the average white lived in a tract that was 4 percent black. Of course, a large differential in exposure is to be expected, given that blacks were only 12 percent of the population of urban areas; in the absence of absolute segregation, a minority group will inescapably have more exposure than the majority.

Another pattern that is evident from these tables are the large regional differences in the exposure rates of households. In the 1970 sample, black exposure to whites was lowest in the North Central states (0.25) and highest in the North East (0.39) and in the West (0.38). In contrast, white exposure to blacks was lowest in the West (0.02) and highest in the South (0.07). This general regional ranking was observed in each sample year. Among whites, the highest rates of exposure were in the South; and among blacks, the highest rates were in the North East and in the West. The exposure rates of blacks and whites alike were consistently low in the North Central states.

Table 4

Black Exposure to Whites:[1] 1960-1970

	Full Sample	Selected Time Series Sample		
Year	1970	1970	1960	Percentage Change: 1960-1970
United States	0.313 (238)[3]	0.304 (130)	0.333 (130)	-8.7%
North East	0.382 (49)	0.386 (32)	0.422 (32)	-8.5%
North Central	0.247 (66)	0.227 (35)	0.263 (35)	-13.7%
South	0.291 (86)	0.274 (40)	0.300 (40)	-8.7%
West	0.378 (37)	0.369 (23)	0.419 (23)	-11.9%

Table 5

White Exposure to Blacks:[2] 1960-1970

	Full Sample	Selected Time Series Sample		
Year	1970	1970	1960	Percentage Change: 1960-1970
United States	0.0434 (238)	0.0449 (130)	0.0420 (130)	+6.9%
North East	0.0467 (49)	0.0494 (32)	0.0405 (32)	+22.0%
North Central	0.0319 (66)	0.0336 (35)	0.0330 (35)	+1.8%
South	0.0694 (86)	0.0711 (40)	0.0804 (40)	-11.6%
West	0.0245 (37)	0.0270 (23)	0.0231 (23)	+16.9%

1. Weighted by the SMSA's number of blacks.
2. Weighted by the SMSA's number of whites.
3. Figures in parenthesis indicate sample size.

Despite these gross similarities in the two sample years, significant changes occurred. An examination of the statistics which underlie Table 4 shows that black exposure to whites declined in 97 of the 130 SMSAs, from an average of 33 percent in 1960 to an average of 30 percent in 1970. Widespread declines occurred in each region of the country. The drops were largest in the North Central states and in the West, where the average black's exposure to whites decreased by 14 and 12 percent, respectively. These general trends are consistent with the distributional data presented at the outset of this discussion, which showed an increase in the proportion of blacks in predominately black tracts.

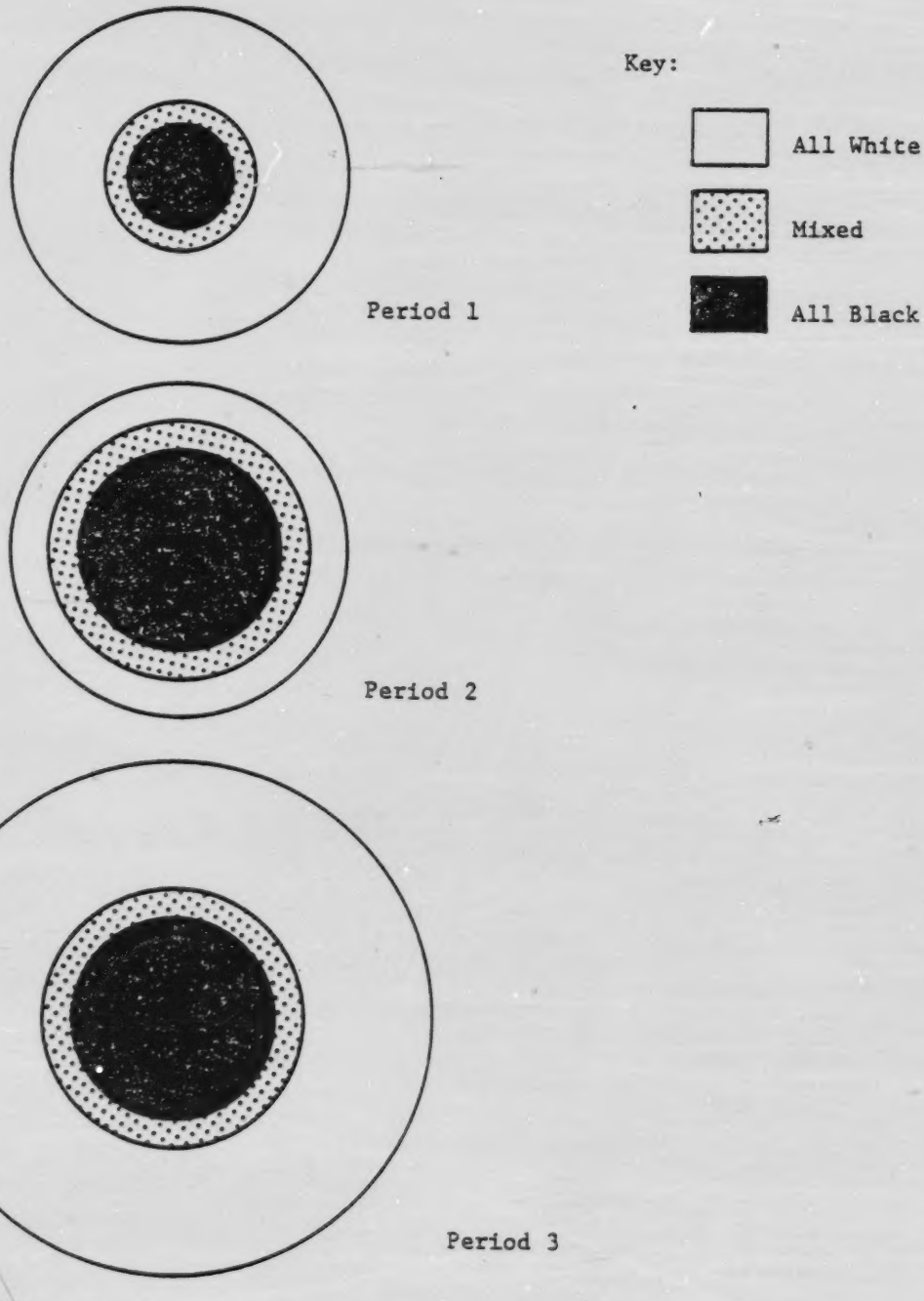
In contrast, white exposure to blacks increased in 74 SMSAs, declined in 54, and stayed constant in 2. These shifts produced a 7 percent rise in the average white's exposure to blacks. In all regions save the South, the exposure of whites increased--a trend that implies that the average white had more blacks as neighbors. In the South, just the opposite change took place: the average exposure of whites to blacks declined from 8 to 7 percent. These regional trends are again consistent with the distributional data that were examined at the beginning of the chapter.

A Simple Model of Ghetto Growth

To gain some perspectives on the trends that are revealed in Tables 4 and 5, it may be helpful to consider how exposure rates might change from the simple process of urban growth. As an example, suppose that blacks live in a centralized, all-black cluster, surrounded by an integrated border or transitional zone. Such a city is depicted in Figure 5. Suppose also that as the black population grows, the ghetto expands peripherally, with the border shifting outward into adjacent and formerly

FIGURE 5

An Hypothetical Pattern of Ghetto Growth



all-white neighborhoods, and with previously mixed neighborhoods becoming black. In Figure 5, this pattern of ghetto growth can be illustrated by comparing our hypothetical city in periods 1 and 2, or in periods 1 and 3.

Black exposure to whites will tend to decline with this general pattern of growth reflecting the decreased size of border neighborhoods relative to the larger black interior. This is simply a matter of geometry: the periphery of a circle or square grows less rapidly than its area. If the width and racial mix of the border remain approximately the same--as they do in the examples in Figure 5—black exposure to whites will decrease as the ghetto area expands. This decline reflects an increase in the proportion of blacks that live in neighborhoods where the concentration of whites is low.

The accompanying change in the exposure of whites to blacks will depend on the overall change in the area's ratio of blacks to whites. When white growth is relatively slow, the expanding ghetto area will become large relative to the white sectors of the metropolis and the average exposure of whites will increase. Such an outcome can be illustrated in Figure 5 by comparing the hypothetical city in periods 1 and 2. When white growth is relatively rapid in comparison to the growth of blacks, the border will become less important relative to the white sectors of the market. The average white will then be exposed to a smaller proportion of blacks. This latter outcome can be illustrated by comparing periods 1 and 3.

Interpreting Trends

These simple examples suggest that differences in the size of a city's ghetto will lead to differences in the exposure rates of housholds. They also suggest that black growth will typically lead to a decline in the exposure of blacks to whites. The trends depicted in Table 4 are

generally consistent with these hypotheses. The number of blacks increased in all but 10 areas in the sample. As expected from the examples in Figure 5, ninety-three of the 120 SMSAs with a growing black population experienced a decline in the average black's exposure to whites.

This trend should be taken as fairly strong evidence that existing racial patterns were preserved in the majority of areas examined. Established black neighborhoods appear to have filled in and expanded outward, so that the average black was exposed to a smaller number of whites. More encouraging for advocates of integration are the 25 instances in which black exposure to whites increased despite a concurrent rise in the area's number of blacks.[1] These developments indicate a change in the general ordering of households--either wider transitional areas around established black neighborhoods or an increase in the dispersion of blacks within the metropolitan area.

Movements in white exposure to blacks can also be interpreted in terms of our simple model of ghetto growth. The average white's exposure to blacks typically declined in areas where white growth exceeded black growth (30/36) and increased in areas where the two growth rates were reversed (68/92). This simple relationship is not surprising in light of our earlier finding that established racial patterns were generally maintained throughout the sixties. When white growth was relatively

1. The SMSAs were Albuquerque, New Mexico; Ann Arbor, Michigan; Binghamton, New York-Pennsylvania; Brockton, Massachusetts; Charlotte, North Caroliona; Colorado Springs, Colorado; Columbus, Georgia-Alabama; Durham, North Carolina; El Paso, Texas; Flint, Michigan; Fort Worth, Texas; Houston, Texas; Madison, Wisconsin; Miami, Florida; Nashville-Davison, Tennessee; Phoenix, Arizona; Portland, Maine; Richmond, Virginia; Sacremento, California; Santa Barbara, California; Syracuse, New York; Toledo, Ohio-Michigan; Tucson, Arizona, Utica-Rome, New York; Waterloo, Iowa.

sluggish, the expanding border areas grew large relative to the white sectors of the metropolis and the average exposure of whites increased; when white growth exceeded black growth, the border grew less important and the average white was then exposed to a smaller proportion of blacks.

This general pattern of development can also be used to explain regional differences in the exposure of whites to blacks. The figures in Table 5 revealed that the average white's exposure to blacks increased in all areas but the South--the only region of the country in which the growth of whites exceeded the growth of blacks. In the South, white exposure to blacks declined by 17 percent, while the region's overall proportion black declined from 20 to 19 percent. In the remaining sections of the country, white exposure to blacks increased by about 18 percent, while the overall proportion black increased from 8 to 10 percent.

One should note that there is an ambiguity inherent in this interpretation--a positive correlation between the change in the average exposure of whites to blacks and the area's proportion black would also arise in an integrated housing market. Fortunately, these two alternatives can be distinguished by considering the concurrent experience of blacks. If the increased exposure of whites to blacks were due to a dispersion in the area's black population, the exposure rates of both groups would increase. This occurred in less than one third of the 74 metropolitan areas in which white exposures rose.

Sectoral Trends

The above statistics could be criticized in that they may be too broad to capture subtle, but nevertheless important developments in

different sectors of the housing market. For example, a substantial number of upper income blacks may be moving to previously all-white neighborhoods, even though the majority of blacks continue to reside in areas that are in or adjacent to the ghetto. This kind of development might well be lost in the aggregate statistics chat have been described in the previous pages.

In an attempt to distinguish trends that have occurred in different sectors of the market, tracts were divided into three equi-sized groups based on the incomes of their residents.[1] High income tracts had average family incomes that were in the upper third for the SMSA as a whole; middle and low income tracts had average incomes that were in the middle and lower thirds. Tables 6 and 7 summarize trends in the exposure rates of blacks and whites for each of these three neighborhcod types. Equivalent statistics for individual SMSAs are presented in Table B.2 of Appendix B.

The data presented in Tables 6 and 7 reveal large differences in the level of exposure across different neighborhood types. In 1970 white exposure to blacks averaged one and 3 percent in the high and middle income areas, and 10 percent in the low. Evidently, whites' contact with blacks was largely confined to neighborhoods with incomes in the lower third of the income scale. In contrast, black exposure to whites was relatively high (0.73) in high income neighborhoods and relatively low (0.24) in neighborhoods with incomes in the lower third. However, since the overwhelming majority of blacks lived in lower income tracts, the relatively high rates of exposure in high income tracts refer to a handful of blacks constituting small minorities in prosperous white communities.

1. The income definition of a given tract may change in the two years.

TABLE 6

Black Exposure to Whites[1] by Neighborhood Type: 1960-1970
(130 SMSAs)

	Low Income Neighborhood		Middle Income Neighborhood		High Income Neighborhood	
	1970	1960	1970	1960	1970	1960
United States	0.242	0.271	0.515	0.646	0.731	0.827
North East	0.330	0.359	0.535	0.683	0.805	0.859
North Central	0.188	0.230	0.401	0.590	0.626	0.737
South	0.194	0.211	0.537	0.638	0.741	0.835
West	0.309	0.384	0.597	0.687	0.699	0.809

TABLE 7

White Exposure to Blacks[2] by Neighborhood Type: 1960-1970
(130 SMSAs)

	Low Income Neighborhood		Middle Income Neighborhood		High Income Neighborhood	
	1970	1960	1970	1960	1970	1960
United States	0.105	0.102	0.031	0.026	0.014	0.011
North East	0.120	0.097	0.030	0.022	0.015	0.011
North Central	0.087	0.095	0.018	0.013	0.009	0.005
South	0.162	0.194	0.063	0.068	0.022	0.023
West	0.059	0.061	0.016	0.007	0.009	0.004

1. Weighted by the number of blacks.
2. Weighted by the number of whites.

A comparison of exposure rates over time also reveals that sectoral trends were similar to those which have been observed for the SMSA as a whole. The average black's exposure to whites declined in each neighborhood type and in each region of the country. As noted earlier such declines would signal the peripheral growth and expansion of established black communities. Even in high income areas--where some dispersion might be expected to occur--the pattern was much the same; indeed, the average exposure of blacks to whites decreased by 11 percent in both high and low income tracts. The consistency of the data across the different neighborhood types supports our earlier contention about the stability of racial patterns.

Relative Measures of Segregation: 1960-1970.

Combining all of this information into some judgment of the overall change in "residential segregation" raises knotty problems of definitions and concepts. Up until now, we have examined exposure rates in absolute terms. However, in devising a measure of segregation one might also want to consider the maximum rate that is possible, given the size of the two racial groups. An alternative measure of segregation would take these possibilities into account, and compare the gains that were actually made to the gains that were physically possible.

One such measure can be formed by comparing the actual exposure rate of blacks to whites to the exposure rate that would arise if blacks were evenly distributed throughout the metropolitan area; the latter is equal

to the proportion white in the SMSA as a whole.[1] This relative "exposure" index is constructed to range from a minimum of zero to a maximum of 100, with 100 depicting an area where tracts are either all white or all black, and with zero representing an area where each tract has the same concentration of blacks.

---

1. In the simplest case where the population (T) consists of two groups--blacks (B) and whites (W)--the "relative" exposure index is defined by:

$$(1) \quad I_s = [1 - BX/(1-\bar{m})] \cdot 100$$

or, alternatively, by:

$$(2) \quad I_s = [1 - WX/\bar{m}] \cdot 100$$

where WX is white exposure to blacks, BX is black exposure to whites, and $\bar{m}$ is the area's proportion blacks. Because the ratio of white to black exposure (WX/BX) is equal to the ratio of blacks to whites, $\bar{m}/(1-\bar{m})$, the two measures are equivalent. They are also equivalent to a third measure, which compares the average inter-racial exposure rates of all households to the overall exposure rate that is possible:

$$(3) \quad I_s = \left\{ 1 - \frac{mBX + (1-m)\,WX}{2m(1-m)} \right\} \cdot 100$$

From the above formulation, it is obvious that the "relative" exposure index weights the exposure rate of each group by the relative size of its population.

When the population consists of three groups--blacks (B), whites (W), and other non-whites (ONW)--the above equations have to be modified slightly to obtain an index which will range from zero to 100. Under this modification, Equation 1 becomes:

$$(4) \quad I_s' = \left[1 - BX'/\left(\frac{B}{B+W}\right)\right] \cdot 100$$

where $BX' = \frac{1}{B}\sum B_i \left(\frac{Wi}{Wi+Bi}\right)$. While this revised index is used in the calculations that are presented in the text, it is highly correlated ($\vee =$) with the index described by Equation 1.

Table 8 summarizes values of this relative measure of segregation for the full sample of 238 SMSAs, and for the subsample of 130 SMSAs for which time series data are available. Statistics for the individual metropolitan areas are presented in Table B.1 of Appendix B. According to these statistics, residential segregation by race was highest in the North Central states and lowest in the North East and the West. This general ordinal ranking held in each of the three samples. In the full 1970 sample, the index ranged from a minimum of 0.2 (Provo-Orem, Utah) to a maximum of 85.8 (Fort Lauderdale-Hollywood, Florida) with an average of 52.8. Metropolitan areas with extremely low index values were generally those in which the number of blacks was negligible.

The statistics presented in Table 8 also reveal a significant rise in the level of segregation between 1960 and 1970. In the U.S. as a whole, the average index of segregation increased by 6 percent, with 75 percent of the sample areas registering an increase in segregation. The increase was largest in the North Eastern states (8 percent) and smallest in the West (2 percent). Only 31 of the SMSAs in the sample registered a decline in segregation. For the most part, these were the same SMSAs in which black exposure to whites increased[1]--a development which could signify either wider transitional areas around established black neighborhoods or a more general increase in the dispersion of blacks within the housing market.

---

1. The SMSAs include those listed in footnote 1, p. 20, plus Charleston, South Carolina; Fall River, Maine-Rhode Island; Manchester, New Hampshire; Montgomery, Alabama; New York, New York; Pueblo, Colorado; Seattle-Everett, Washington; Spokane, Washington.

Table 8

Index of Residential Segregation by Race for Metropolitan Areas:[1] 1960-1970

Year	Full Sample 1970	Selected Time Series Sample 1970	1960	Percentage Change: 1960-1970
United States	52.8 (238)	55.8 (130)[2]	52.6 (130)	+6.0%
North East	46.3 (49)	48.9 (32)	45.2 (32)	+8.1%
North Central	61.2 (66)	66.5 (35)	63.2 (35)	+5.2%
South	59.8 (86)	62.5 (40)	58.8 (40)	+6.2%
West	41.8 (37)	45.9 (23)	45.0 (23)	+2.0%

1. Weighted by the SMSA's total population.
2. Sample size in parenthesis.

SUMMARY

The statistics presented in this chapter attest to the high level of segregation that characterizes the majority of housing markets. They also suggest that the intensity of that segregation--whether measured in absolute or in relative terms--has increased in recent years. This increase occurred in spite of many economic, social, and political developments which might have encouraged integration. During the 1960's established minority neighborhoods generally filled in and expanded outward, a pattern of peripheral growth that left the average black with a smaller number of whites as neighbors. While the average white was at the same time exposed to a slightly larger number of blacks, the vast majority of urban whites continued to live in neighborhoods where less than one percent of the inhabitants were black.

III. FACTORS AFFECTING THE LEVEL OF RESIDENTIAL SEGREGATION BY RACE

The previous chapter documented the intensity and the relative tenacity of residential segregation by race. Despite conditions which on the surface would appear to be condusive to integration, established racial patterns were generally maintained throughout the 1960s. This chapter attempts to identify some of the more important economic, social, and market factors that were associated with a high level of residential segregation by race. While the analysis is at best exploratory, it is hoped that the empirical findings which are presented in this chapter will provide some insight into the complicated set of forces that affect the racial stratification of urban areas.

The first part of the analysis explores the extent to which racial differences in income explain the locations of blacks and whites. The remainder of the chapter considers other social, institutional and market factors that may be associated with segregation. This latter analysis is based on a cross-sectional regression equation which relates the SMSA's index of segregation to a number of causal and contextual variables thought to affect the level of racial mixing.

BLACK-WHITE DIFFERENCES IN INCOME

It has sometimes been argued that the segregation of urban areas is the direct result of pronounced disparities in the incomes of blacks and whites. On the surface, this argument has enormous intuitive appeal. In 1974, the median income of black families was 41 percent less than the median income of whites. Since households with similar incomes tend to select similar quality homes, and since dwellings tend to be clustered by size, age, and quality, economic differences <u>per se</u> could conceivably explain a large amount of residential segregation by race.

This general line of reasoning has lead some analysts to liken the segregation of the nation's blacks to the segregation of earlier migrants to the cities. Banfield writes that:

> The other minority groups once lived in the oldest parts of the inner cities--and the Negro lives there now--not because they were looked down on (although, of course, they were) as becaus they had low incomes [1, p. 78].

A corrollary to this basic analogy is the assumption that economic progress on the part of blacks will eliminate residential segregation by race--just as such gains eventually led to the assimilation of earlier immigrant groups.

This section examines the extent to which racial differences in income account for the segregation of urban areas. The analysis begins by deriving the number of blacks that would live in a given neighborhood if blacks at each income level were represented to the same extent as otherwise similar whites. Differences between the expected and the actual number of blacks in the various parts of the metropolis are then used to calculate measures of segregation which are similar to the ones that were presented in Chapter II. This technique--known as indirect standardization--enables one to derive an index of segregation that controls for the effects of racial income differentials [6,5,15].

Estimating the Expected Distribution of Households

The procedure is relatively simple. Suppose that income were the sole determinant of one's location within an urban area. The expected number of blacks in a given neighborhood would then depend on the income distribution of the neighborhood's residents and on the income distribution of blacks and whites in the SMSA as a whole. If a neighborhood contained a high proportion of high income households and if the vast

majority of blacks were poor, only a small number of blacks would be expected to live in the area.

As an example of this technique, suppose that blacks are 5 percent of the market's households with incomes in excess of $15,000. If a tract has 200 households in this particular income category, one would expect 10 of those households to be black (10 = 0.05 X 200). Applying this general logic to each income category, one can derive the expected number of blacks for any given tract.[1] The expected number of whites (or more precisely, non-blacks) is then equal to the difference between the tract's total population and its expected number of blacks.

Ideally, this simple estimation procedure would enable one to predict the distribution of blacks and whites in the absence of prejudice and discrimination. However, to a certain extent, the economic stratification of urban areas will depend on the existing pattern of residential segregation by race. While other criteria might have been used to predict the locations of blacks and whites, most would suffer from this same inherent ambiguity. As a result, a technique of this sort is more properly viewed as a test of the extent to which racial differences in income explain the existing pattern of segregation. It is less accurate when viewed as a device to predict some idealized configuration of urban areas.

---

1. If $E(B_j)$ is the expected number of blacks in the j^{th} tract then:

$$E(B_j) = s \sum_{i=1}^{k} a_i F_{ij} \qquad j=1,\cdots T$$

where a_i is the proportion black for the SMSA's families in the i^{th} income category; F_{ij} is the number of families in the i^{th} income category in the j^{th} tract; k is the number of income categories; and s is the average family size for the SMSA's blacks. Note that scaling by s is necessary to translate number of families into number of persons.

The Actual and the Expected Distribution of Households

Figures 6 and 7 compare our estimates of the actual and expected distribution of blacks and whites across census tracts with different racial mixes. These statistics are similar to the ones presented in Chapter II, except that they refer to a smaller number of metropolitan areas. In 1970, data on the distribution of black family income was available for only 76 SMSAs--those with a population in excess of 250,000, and those with a significant number of blacks. However, these 76 SMSAs contained some 87 percent of all metropolitan blacks and 72 percent of all metropolitan whites.[1]

Figure 6 gives striking evidence that the ghettoization of this nation's blacks is not the direct consequence of their lower incomes. Seventy-four percent of the sample's blacks lived in tracts which were more than 50 percent black; if income were the sole determinant of location, this proportion would be under one. In contrast, over 87 percent of the sample's blacks were expected to live in tracts in the 5 to 30 percent range, while in actuality, the proportion was only 12. This large discrepancy between the actual and the predicted distribution of urban blacks lends little credence to the view that blacks are segregated because they are poor.

The statistics in Figure 7 tell a story that is much the same. While 64 percent of the sample's whites lived in tracts that were less than one percent black, the expected proportion was close to zero. In contrast, almost 85 percent of the sample's whites were expected to live in tracts in the 5 to 30 percent range; but in actuality, the proportion was just 13. If income were the sole determinant of location, the

1. Throughout this discussion, the term "whites" refers to non-blacks.

FIGURE 6

Actual and Predicted Distribution of Urban Blacks
by Proportion Black in Tract: 1970
(76 SMSAS)

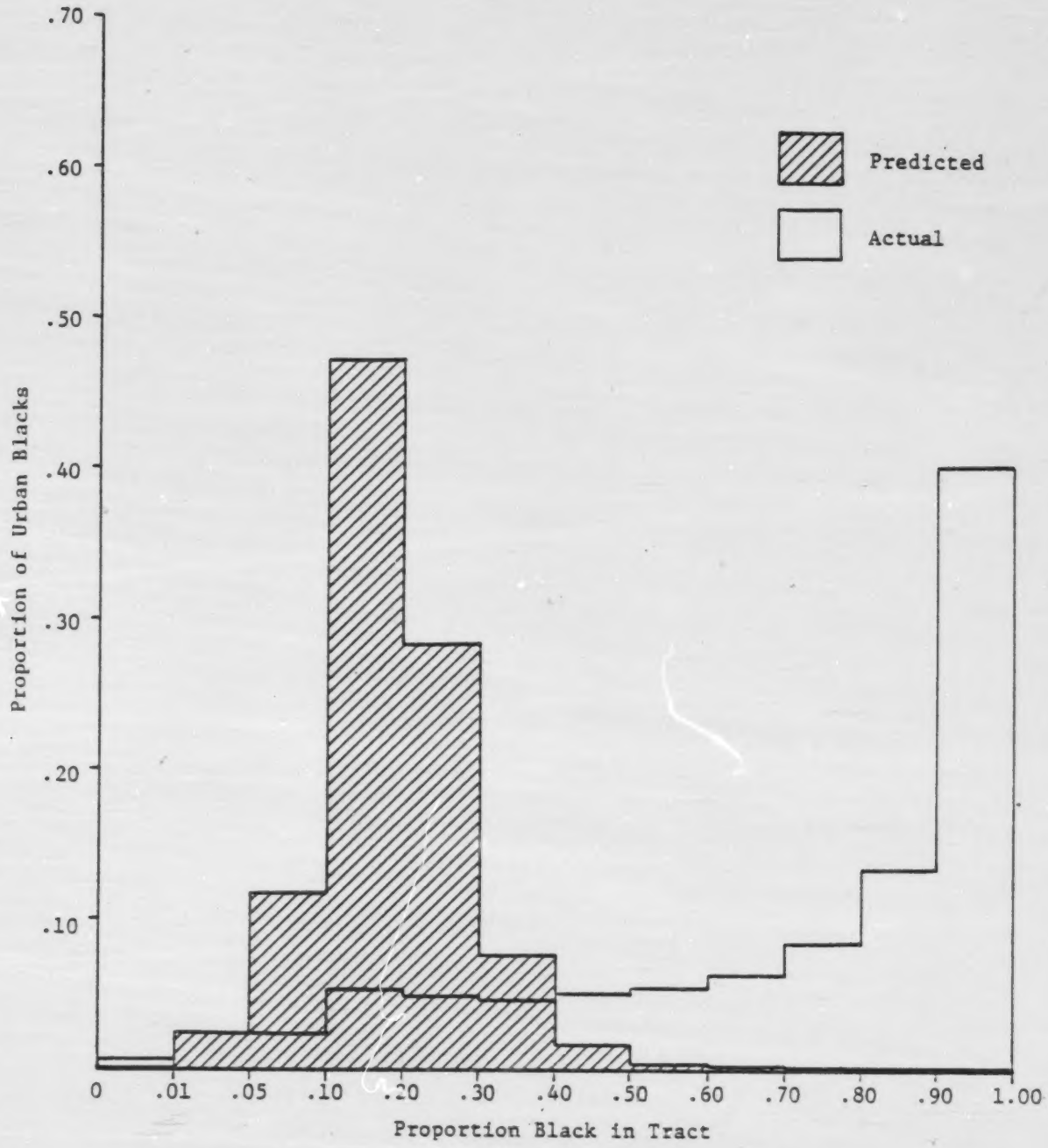
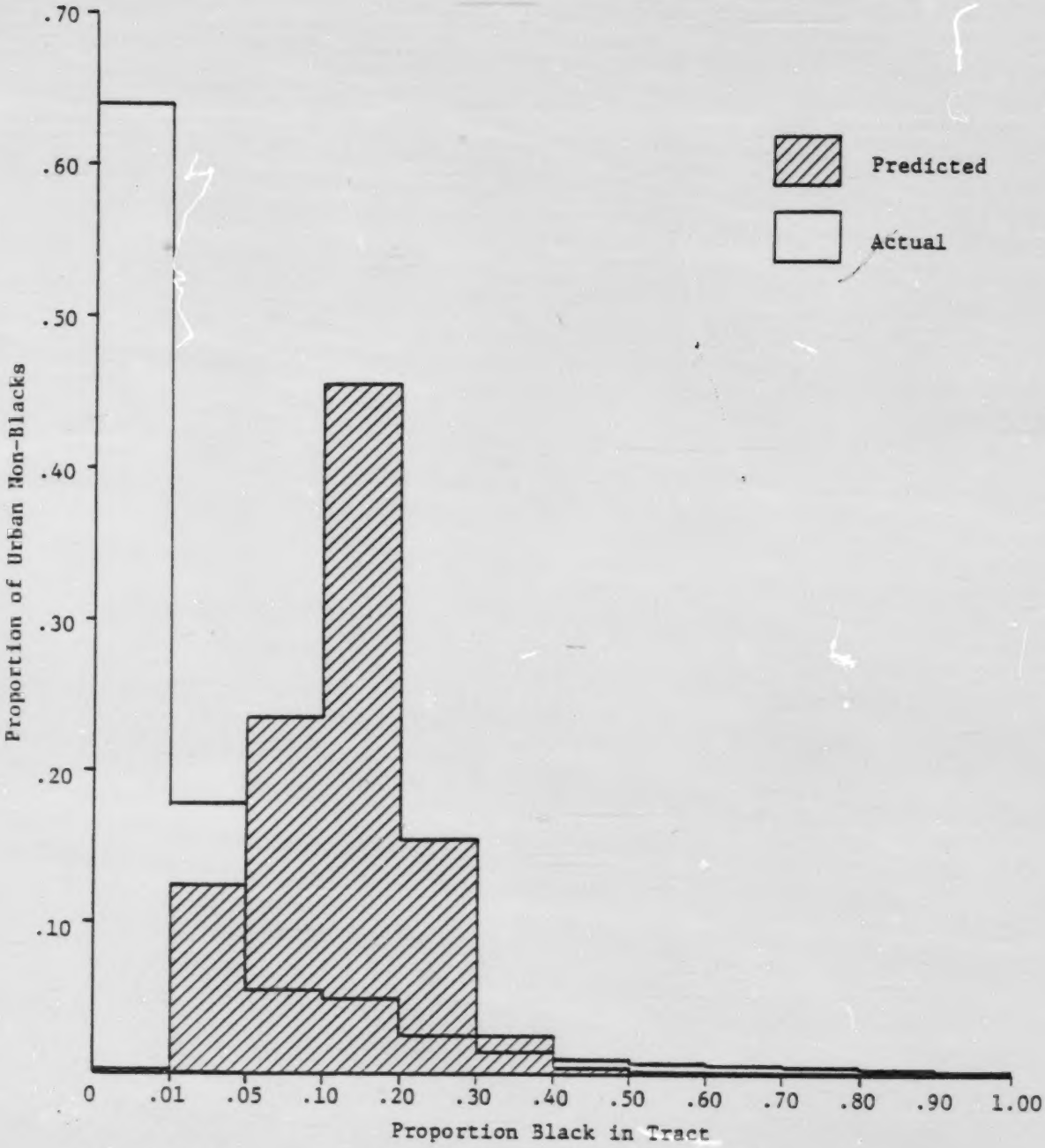


FIGURE 7

Actual and Predicted Distribution of Urban Non-Blacks
by Proportion Black in Tract
(76 SMSAS)



majority of whites would be expected to have a larger number of blacks as neighbors.

Actual and Expected Rates of Exposure

Similar conclusions can be drawn from the aggregate measures of segregation that were developed in Chapter II. Table 9 shows the actual and the expected exposure of blacks to whites for the 1970 sample of 76 SMSAs. It also presents equivalent statistics for a subsample of 39 SMSAs in 1960 and 1970. Further reduction of the sample in the time series comparision was necessitated by the fact that 1960 income data were available for nonwhites, but not for blacks. To maximize inter-temporal comparability, SMSAs in which blacks were less than 95 percent of all nonwhites were eliminated from the sample. The resulting subsample of 39 SMSAs contained almost half of the nation's urban blacks.

The figures in Table 9 reveal a large discrepancy between the expected and the actual exposure of blacks to whites. In the 1970 sample of 76 SMSAs, the average black was expected to live in a neighborhood that was 81 percent white. However, the actual exposure of blacks to whites was under 30 percent, little more than a third of the level predicted on the basis of income alone. The difference between the actual and the expected exposure rate of blacks--although large in all regions of the country--was highest in the North Central states and lowest in the West.

Time series data from the sample of 39 SMSAs suggest that these differences have increased over time, primarily due to the large decline in the actual exposure of blacks to whites. For the most part, the expected exposure of blacks changed in a way that was consistent with broader trends in the incomes of blacks and whites. Developments in the

Table 9

Actual and Expected Exposure of Blacks to Non-blacks:[1] 1960-1970

	76 SMSA's[2]			39 SMSA's[2]					
	1970			1970			1960		
	Actual	Expected	Ratio of Actual to Expected	Actual	Expected	Ratio of Actual to Expected	Actual	Expected	Ratio of Actual to Expected
United States	.297 (76)[3]	.814	.365	.245 (39)	.786	.312	.277 (39)	.785	.353
North East	.384 (14)	.841	.457	.470 (5)	.917	.513	.555 (5)	.930	.597
North Central	.218 (18)	.838	.260	.198 (10)	.826	.240	.230 (10)	.849	.271
South	.270 (36)	.755	.358	.262 (24)[4]	.748	.350	.289 (24)	.730	.396
West	.378 (8)	.901	.420	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Table 10

Actual and Expected Exposure of Non-blacks to Blacks:[5] 1960-1970

	76 SMSA's[2]			39 SMSA's[2]					
	1970			1970			1960		
	Actual	Expected	Ratio of Actual to Expected	Actual	Expected	Ratio of Actual to Expected	Actual	Expected	Ratio of Actual to Expected
United States	.049 (76)[3]	.135	.364	.053 (39)	.170	.311	.055 (39)	.157	.352
North East	.057 (14)	.126	.456	.039 (5)	.075	.513	.039 (5)	.065	.596
North Central	.035 (18)	.133	.259	.038 (10)	.158	.240	.037 (10)	.138	.270
South	.068 (36)	.191	.358	.072 (24)[4]	.205	.350	.082 (24)	.208	.395
West	.033 (8)	.078	.419	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

1. Weighted by the SMSA's number of blacks.
2. Data for individual SMSA's is presented in Table 1 of Appendix C.
3. Figures in parentheses indicate sample size.
4. The sample contained no SMSA's in the West.
5. Weighted by the SMSA's number of Non-blacks.

North Central states and in the South primarily reflected changes in the economic positions of blacks; the ratio of black to white family income decreased by a small amount in the North Central states, but rose by a large amount in the South [18]. However, the relative income of blacks also increased in the East--a trend which appears to conflict with the concurrent decline in the expected exposure of blacks. Further analysis of the data revealed that this decline was produced by a marked increase in the extent to which neighborhoods were stratified by income. This increase--which was not observed in the North Central states or in the South--was sufficiently large to offset a concurrent rise in the purchasing power of blacks.

Table 10 presents equivilent statistics on the exposure of whites to blacks. Again, there are large discrepancies in expected and actual values. If income were the sole determinant of location in the sample of 76 SMSAs, the average white would live in a tract which was 13 percent black. In actuality, however, the average exposure of whites to blacks was closer to 5 percent--a considerable differential which suggests that income differences per se have little to do with the segregation of urban blacks.

Relative Indexes of Segregation

An absolute measure of segregation analogous to the one developed in Chapter II can be formed by comparing the expected exposure of blacks to whites to the exposure that would arise if blacks were evenly dispersed across space; the latter is again equal to the area's proportion white.[1]

---

1. The expected index of segregation is defined as follows:

$$\hat{I}_s = 1 - \frac{\hat{BX}}{(1-\bar{m})}$$

where $\hat{BX}$ is the expected exposure of blacks to whites, and $1-\bar{m}$ is the area's proportion white.

The resulting index of segregation--denoted by Index III in Table 11--estimates the level of residential segregation by race that would arise if income were the sole determinant of location. The statistics in Table 11 indicate that this level would be very low. Indeed, in the sample of 76 SMSAs, the expected index of segregation (Index III) was less than 2 percent of its actual level (Index II).

One might nevertheless wish to construct an index of segregation that incorporates racial differences in income into its definition of a non-segregated city. Such an index can be formed by comparing the actual exposure rate of blacks to the exposure rate that was predicted on the basis of household income.[1] In this adjusted segregation measure--denoted by Index I in Table 11--the expected rate of exposure of blacks to whites replaces the area's proportion white as the underlying standard for integration. A comparison of the adjusted (I) and the unadjusted (II) index shows that this modification makes little difference. The rankings of the regions remained the same, as did the changes that were observed over time.[2]

---

1. This adjusted index of segregation is defined by:

$$I_s' = 1 - \frac{BX}{\hat{BX}}$$

where BX and $\hat{BX}$ are the actual and the expected index of segregation, respectively.

2. Data for individual SMSAs is presented in Table C.2 of Appendix C.

Table 11

Actual and Expected Indexes of Segregation: Blacks v. Non-blacks: 1960-1970[1]

	76 SMSA's[2]			39 SMSA's[2]					
	1970			1970			1960		
	Index I: Adjusted	Index II: Unadjusted	Index III: Expected	Index I: Adjusted	Index II: Unadjusted	Index III: Expected	Index I: Adjusted	Index II: Unadjusted	Index III: Expected
United States	.611 (76)[3]	.615	.010	.680 (39)	.684	.014	.641 (39)	.648	.018
North East	.539 (14)	.543	.010	.492 (5)	.495	.005	.402 (5)	.405	.004
North Central	.706 (18)	.708	.008	.749 (10)	.751	.010	.724 (10)	.727	.011
South	.641 (36)	.647	.018	.653 (24)[4]	.659	.019	.611 (24)	.623	.029
West	.534 (8)	.536	.004	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

1. Weighted by the SMSA's total population.
2. Data for individual SMSA's is presented in Table 2 of Appendix C.
3. Figures in parentheses indicate sample size.
4. The sample contained no SMSA's in West.

Summary of Findings

The above statistics lend strong support to the hypothesis that residential segregation by race is not the simple consequence of racial differences in income. Apparently, there is enough integration by income within individual census tracts to overcome what are admittedly large differences in the socioeconomic status of blacks and whites. This finding suggests that the majority of urban areas have a large, and for the most part untapped potential for residential integration by race. Contrary to the claims of Banfield and others, the segregation of urban blacks can not be explained by their higher incidence of poverty.

A CROSS-SECTIONAL REGRESSION ANALYSIS

Socioeconomic differentials are thus not the only source of racially stratified neighborhoods. Indeed, their impact appears to be small. But does an impact exist at all? Do areas in which blacks and whites have similar incomes exhibit less segregation than otherwise similar areas in which the differentials are fairly large? What other social, political and institutional factors contribute to the segregation of urban areas? Are variations across cities random, or do they instead reflect systematic differences in the underlying characteristics of the population or housing market?

While these issues are admittedly complex, answers to such questions would greatly enhance our current understanding of residential segregation by race. Accordingly, the remainder of this section uses cross-sectional regression analysis in an attempt to identify some of the more important causal and contextual variables that are associated with a high degree of segregation. The discussion begins with a brief

review of the different social, economic and institutional forces that are thought to produce a segregated housing market. It then presents a number of different hypotheses that are consistent with such models, and describes the results of a regression equation that puts these hypotheses to a test. At the outset, it should be stressed that this analysis is exploratory in nature. Because of its highly aggregate nature, the analysis can at best identify broad correlates of segregation. The actual rejection or acceptance of the different causal models is beyond the scope of the study.

Alternative Explanations for Segregation

What factors in addition to income differentials might account for the segregation of urban areas? One common explanation cites the discriminatory behavior of various agents and institutions within the real estate industry. These include landlords, realtors, financial intermediaries, and even the federal government. In the past, members of the real estate industry have openly supported policies which served to limit the housing opportunities of blacks and which helped to maintain racially separate neighborhoods. Racial covenants on many dwellings prevented owners from selling their units to blacks; financial institutions refused to make loans in racially integrated neighborhoods; and the professional association of realtors maintained an explicit code of ethics that prohibited member brokers from bringing blacks into previously all-white neighborhoods. While recent legislation has undoubtedly reduced such practices, institutionalized discrimination has by no means disappeared and could well account for much of the segregation that exists in urban areas.

Another important factor that may contribute to segregation is the preference on the part of whites or blacks to live in racially segregated neighborhoods. Numerous models have shown that even mild feelings of

hostility or attraction towards certain types of households will tend to produce a segregated housing market [9,10]. If such models are correct--and they are difficult to verify empirically--they imply that segregation will be to a large extent the inevitable result of the operation of market forces.

In this regard, it is important to note the distinction between discriminatory attitudes and discriminatory practices. Discriminatory attitudes, or racial prejudice, refer to a household's desire to have particular kinds of neighbors. Such prejudice can exist with or without discriminatory practices within the real estate industry. While fair housing laws can reduce or eliminate the latter kind of behavior, there is no guarantee that they will affect the underlying attitudes of an area's residents. If racial prejudice remains, segregation may well persist even in the absence of institutionalized discrimination.

Expected Variation Across Cities

These underlying causal factors suggest a number of broad hypotheses about the segregation of urban areas. In general, one would expect segregation to be relatively high in areas where there were large differences in the incomes of blacks and whites and where discrimination and prejudice were intense. But while such hypotheses are fairly easy to conceptualize, they are considerably more difficult to translate into readily testable hypotheses which can be examined within the confines of an empirical analysis.

The major problem is due to the fact that variations in the behavior of the real estate industry or in the racial attitudes of an area's residents are difficult, if not impossible to measure. At best, one can only hope to devise a series of proxy variables which capture the more important

attitudinal and behavioral differences that exist across urban areas. Since the determinants of racial prejudice are not yet fully understood, the selection of such proxies is an extremely difficult task. Inevitably their relationship to segregation will be subject to a variety of interpretations--making the underlying causal models difficult to accept or reject.

It is also important to recognize that discriminatory attitudes and actions do not act in a vacuum. They are influenced by--and, in turn, influence--the broader forces of demand and supply. As a result of this interaction, variations in segregation across cities or over time will undoubtedly reflect differences in the underlying characteristics of the housing market in addition to any differences in the more fundamental causal variables. While such market variables may be relatively easy to measure, their impact may be fairly subtle and thus extremely difficult to detect.

With these caveats in mind, this section presents a number of specific hypotheses that are subsequently tested in a cross-sectional regression analysis. These hypotheses concern the presumed relationship between a city's level of segregation and a variety of demographic, economic, and market variables thought to affect the underlying determinants of racial mixing. These independent variables are described in the paragraphs below. Their estimated regression parameters are presented at the end of the section.

The Size and Growth of the Black Population

One factor that might affect the segregation of urban areas is the size of its black population. Some analysts have argued that a larger, more visible black population will be viewed as a greater threat to the

white majority, and will as a result generate an increased level of racial prejudice and discrimination [7]. White prejudice may also be high in areas that have experienced a significant rise in the relative size of their black population.

This general line of reasoning led to the inclusion of three different variables related to the size and the growth of the black population: (1) the total number of blacks; (2) the area's proportion black; and (3) the ten-year increase (or decline) in the overall ratio of blacks to whites. Under this so-called threat hypothesis, one would expect each of these three variables to have positive impact on a city's level of segregation.

Black-White Occupational and Income Difference

Another factor that might affect a city's level of segregation is the socioeconomic status of blacks relative to whites. The previous section revealed that income differences per se account for only a small amount of the segregation in urban areas. Nevertheless, differences of this sort may still give rise to variations in the level or degree of segregation, particularly if such differences are related to the underlying prejudice of an area's whites. The following two variables were thus included in the regression equation: (1) the ratio of black to white median family income; and (2) the ratio of black to white occupational status. Occupational status was measured by the proportion of male civilian workers who were employed in white collar jobs. Each of these two ratios was expected to have a negative effect on a city's index of segregation.

Vacancy Rates

The level of segregation may also be affected by the overall

tightness of the housing market. In the owner-occupied sector, discrimination on the part of sellers or realtors may be low when vacancy rates are high, due to the relative scarcity of potential buyers. Thus, high vacancy rates may be associated with a lower index of segregaton. In the multi-family market, the relationship may be more complex. Again, when vacancy rates are higher, landlords may be more willing to rent to blacks because their supply of tenants will be low; on the other hand, they may be even more inclined to discriminate because they may fear the loss of existing residents. On a priori grounds, it is difficult to predict which of these two effects will predominate.

To test these alternative hypotheses, vacancy rates for owner-occupied and rental units were included in the regression equation. Each rate was weighted by its sector's share of the housing market, thus allowing for intercity differences in the importance of tenure groups. The vacancy rate for owners was expected to have a negative impact on the level of segregation; the effect of the rental vacancy rate was indeterminant.

The Existence of State and Local Fair Housing Laws

Overt discriminatory behavior may also depend on the existence and coverage of fair housing laws at the state and local level. (National laws were of course not enacted until the end of the decade considered.) In general, one might expect the initiation of such an act to decrease the segregation of blacks and whites within a given city. Although an unusually high level of discrimination may well be an impetus to the passage of fair housing laws, thus confusing any comparisons across cities, one might also expect an SMSA with an effective fair housing law to have a comparatively low level of segregation. This possibility prompted the inclusion of a single dummy variable measuring the existence

of either a state or local fair housing law. While this variable is admittedly very crude, the development of more sophisticated measures of effectiveness or enforcement were beyond the scope of this research.

The Ratio of Housing Costs to Income

The level of segregation may also depend on the ratio of housing costs to income, since the latter can affect a household's willingness to live in a racially integrated neighborhood. The externalities model predicts that white households will typically pay a premium for living in all-white areas [10]. When housing costs are high, households will tend to economize on housing services and may well consider racially mixed neighborhoods as a more attractive alternative. If this effect occurs, one would expect a negative correlation between a city's level of segregation and its relative housing costs. Thus a variable measuring the ratio of the median cost of housing to the median family income was included in the regression equation. Median housing costs were estimated from a weighted average of median values and median rents.[1]

The Proportion Foreign Stock

Segregation may also vary with the relative size of the foreign stock. Several studies have found that first and second generation Americans are more likely to live in racially mixed areas than whites who are native born. This correlation may simply reflect the lower incomes of ethnic groups, and may thus disappear when income differences are

---

1. Median housing costs were defined as:

$$HC = (p)\left[\frac{V}{120}\right] + (1-p)\,R$$

where p is the SMSA's proportion of owner-occupied units; V is the median value of owner-occupied homes; and R is median gross rent. V was divided by 120 to approximate the monthly costs of living in an owner-occupied home.

controlled. Nevertheless, a variable measuring the proporiton of whites that were foreigh born or of mixed or foreign parentage was included in the regression equation.

The Proportion of the Population in the Central City

Segregation may also vary with the relative size of the central city. Metropolitan areas with a relatively small central city have a greater potential for exclusionary zoning policies within suburban areas, so that the prospect of white flight from the central cities may be relatively more attractive. This would lead one to expect an inverse correlation between the proportion of the population which resides within the city and the area's index of segregation.

Regional Variation

Finally, one might also expect the level of segregation to vary by geographic region, reflecting a host of unmeasurable differences in attitudes, policies and practices, as well as in the historical pattern of development. Three regional dummies were thus included in the regression equation, signifying the North Central states, the North East and the South. The coefficients of these different variables measure regional differences in segregation relative to Western SMSAs.

The Regression Equations

Table 12 presents the results of 2 cross-sectional regression equations relating the 1970 and the 1960 indexes of segregation to the 14 independent variables that were described in the previous section. The equations' dependent variable was the index of segregation which was described in Chapter II and which was in the simplest case defined by:

$$I_s = 1 - \frac{BXW}{(1-m)}$$

where BXW is the average black's exposure to whites and (1-m) is the

Table 12

Cross-Sectional Regression Equations: 1960 and 1970
(t statistics in parentheses)

	Estimated Regression Coefficient		Variable Means	
DEPENDENT VARIABLE:	1970	1960	1970	1960
Index of Segregation[1]			44.25	40.53
INDEPENDENT VARIABLES				
1. Constant	102.2	49.84		
	(4.89)	(2.24)		
2. Percent Black	0.641	1.032	10.85	10.60
	(2.25)	(3.22)		
3. Number of Blacks (1000s)	0.015	0.027	113.6	82.9
	(2.20)	(2.59)		
4. Ten Year Change in the Ratio of Blacks to Whites[2]	225.3	210.9	7.47×10^{-4}	8.36×10^{-4}
	(3.47)	(3.66)		
5. Ratio of Black to White Occupational Status[3]	-37.9	-14.3	0.450	0.330
	(3.40)	(1.30)		
6. Ratio of Black to White Median Family Income	-35.3	-23.0	0.639	0.615
	(1.85)	(1.21)		
7. Median Housing Costs as a Percentage of Median Family Income	-1.326	0.015	15.6	18.2
	(1.61)	(0.02)		
8. Percent of the Population in the Central City	-0.348	-0.192	48.6	54.9
	(3.91)	(2.04)		
9. Percent Foreign Stock	-0.048	0.013	14.9	17.4
	(0.234)	(0.07)		
10. Owner-occupied Vacancy Rate[4]	-13.2	-6.0	0.78	1.21
	(2.48)	(1.59)		
11. Rental Vacancy Rate[5]	5.61	3.96	2.50	2.76
	(2.73)	(2.06)		
12. Presence of State or Local Fair Housing Law (1=yes, 0=no)	3.68	N.A.	0.616	0
	(0.819)			
13. North Central States (1=yes, 0=no)	10.5	9.7	0.295	0.295
	(2.19)	(1.81)		
14. North East (1=yes, 0=no)	-8.2	-7.2	0.205	0.205
	(1.67)	(1.14)		
15. South (1=yes, 0=no)	12.1	4.0	0.321	0.321
	(1.92)	(0.59)		
R^2	0.68	0.61		
Corrected R^2	0.63	.55		
F	14.39	11.57		
Standard Error	1.31	1.39		
Number of Observations	112	112		

1. The index of segregation is defined by Equation 4, fnt 1, page 27.

2. Defined by $\left[\left(\frac{B}{W}\right)_t - \left(\frac{B}{W}\right)_{t-1}\right]$ where B and W are the number of blacks and whites. At the beginning (t-1) and at the end (t) of the decade.

3. Defined by BWCW/WWCW, where BWCW (WWCW) is the proportion of black (white) male civilian workers in white collar jobs.

4. Weighted by proportion of dwelling units that are owner-occupied.

5. Weighted by proportion of dwelling units that are rental units.

area's proportion white. In each year the sample consisted of 112 SMSAs, those which existed in 1960 and 1970, and those for which requisite data were available.

For the most part, the estimated regression parameters have signs that are consistent with the series of hypotheses that were posited in the previous section. In the 1970 equations, all but two variables were significant at a 90% confidence level--the dummy variable indicating the presence of a state or local fair housing law and the ethnicity variable measuring the proportion of the population that was foreign born or of mixed or foreign parentage. All of the remaining variables were significant at the 95% confidence level. Combined, these 14 explanatory variables accounted for some 68 percent of the cross-sectional variance in the level of segregation. While two additional variables drop out of the 1960 regression equation--one regional dummy and the ratio of housing costs to income--the coefficients of the remaining variables have the same signs as in 1970.

The number of blacks, the proportion black, and the increase in the ratio of blacks to whites each had the predicted positive effect on the city's level of segregation. These findings are consistent with the hypotheses proposed above. However, it is important to note that other factors may account for at least some of this correlation. Chapter II presented a simple model of ghetto growth which revealed a geometric relationship between an area's number of blacks and the average black's exposure to whites. If housing patterns are essentially the same in different urban areas--that is, if blacks in the majority of housing markets reside in a large contiguous ghetto surrounded by a mixed or transitional

zone--black exposure to whites will be low in areas with a relatively large number of blacks.

In such instances the index of segregation--defined as one minus the ratio of black exposure to whites to the area's proportion white--will depend on the size of the black population. For a given proportion black, cities with a large number of blacks will tend to have a relatively high index value; for a given number of blacks, cities with a high proporiton black will tend to have an index that is relatively low. This geometric dependancy reinforces the relationship between segregation and an area's number of blacks that was predicted by the threat hypothesis, and could explain most, if not all of the impact that was detected in Table 12. However, it does not explain the observed effect of the area's proportion black; indeed, on the basis of geometry alone one would expect its coefficient to be negative. Variables measuring the size and the growth of the black population thus lend at least some support to the original threat hypothesis.

The ratios of black to white income and occupational status also had the predicted negative effect on segregation. Ceteris parabus, areas in which blacks were relatively close to whites in socioeconomic status generally had a lower level of segregation than did areas in which the differences were fairly large. The previous section revealed that this relationship could not be explained by a simple mapping of the neighborhood's income to the neighborhood's race. However, the relative status of blacks could affect an area's level of segregation by influencing the intensity of class-related discrimination and by affecting the extent to which markets are income-segregated.

The ratio of housing costs to income had the predicted negative effect on segregation in the 1970 sample, but was insignificant in 1960. The impact in 1970 is consistent with the hypothesis that integrated neighborhoods are less expensive, and thus relatively more attractive to households when housing costs are high. The relative size of the central city also had a negative effect on an area's index of segregation; when the city was relatively small, segregation was more intense. In this case, the underlying causal mechanism could well operate in the opposite direction, making interpretation of the variable difficult. However, the finding is at least consistent with the view that the availability of exlusionary suburban enclaves increases the attractiveness of white flight from the central city and intensifies the level of residential segregation by race.

The two vacancy rates were both significant, but with opposite impacts on segregation. A loose market for owner-occupant housing was generally associated with a lower level of segregation--a finding that is consistent with expectations. On the other hand, a high vacancy rate in the renters' market was associated with a higher level of segregation. This result tends to support the hypothesis that the fear of losing existing tenants may increase the landlord's propensity to discriminate.

The regional dummies were for the most part significant, suggesting that the level of segregation in the South and in the North Central states was generally higher than the level in either the North East or the West. These regional coefficients are difficult to interpret, but undoubtedly depict the broad influence of important excluded variables. Finally, two variables--the proportion foreign stock and the existence of fair housing laws--were insignificant. However, since the fair

housing dummy was an admittedly crude proxy for the enforcement of local laws, its coefficient in the regression equation cannot be used to reject the hypothesis that such legal restraints are an effective device to promote residential integration by race.

Summary of Findings

Cross-sectional regression analysis thus revealed that intercity variations in the level of segregation were associated with systematic differences in the underlying characteristics of the population and housing market. SMSAs with a large and rapidly growing black population were generally more segregated than otherwise similar areas, as were areas with a relatively low cost of housing or with relatively large differences in the socioeconomic status of blacks and whites. Vacancy rates also appeared to affect the overall level of segregation. While the observed relationships are in general consistent with more fundamental causal models concerning the impact of prejudice and discrimination, more extensive analysis would be required to adequately test such hypotheses.

IV. CONCLUSIONS

The 1960s ushered in a series of social, political, and economic developments that might have dramatically improved the prospects for neighborhood racial mixing. Fair housing laws were enacted at all levels of government, blacks made rapid gains in income and education, and the attitudes of blacks and whites alike grew increasingly favorable towards integration. This paper examined locational patterns in 1960 and 1970 to assess the effects of such trends on the segregation of housing markets. It differed from earlier work in that its basic unit of analysis was the SMSA as opposed to the central city.

The study revealed that the majority of housing markets experienced an increase in segregation, whether measured in absolute or in relative terms. Established racial patterns were typically maintained throughout the 1960s, with black population growth accommodated by the peripheral expansion of minority areas. This general pattern of development occurred in both high and low income neighborhoods, and typically left the average black with fewer whites as neighbors. Although the average white was at the same time exposed to a slightly higher proportion of blacks, the vast majority of urban whites continued to live in racially segregated neighborhoods.

Further analysis revealed that the segregation of urban blacks could not be explained by their poverty. Other social, institutional, and market forces were obviously at work. An examination of cross-sectional differences in 1960 and 1970 found that segregation was generally high in areas with a relatively large or rapidly increasing number of blacks; it was also high in areas with relatively large racial differences in

socioeconomic status, with relatively low housing costs, and with a relatively tight market for owner-occupied dwelling units. Thus, variations in segregation did not appear to be random, but were instead related to broad market variables thought to be associated with the underlying determinants of segregation--prejudice and overt discrimination.

Given this basic finding, why did the 1960s experience so little change in the level of racial mixing when conditions appeared to be favorable for a reduction in segregation? One obvious explanation is that federal and state open housing ordinances were still in their infancy at the initiation of the 1970 Census, and that we have yet to observe their full impact on the spacial ordering of households. It is also possible that more subtle forms of discriminatory behavior have simply replaced the blatant techniques of the past; indeed, recent allegations of racial steering and neighborhood redlining tend to support this view. Finally, it is possible that the dead hand of the past continues to play a powerful role in the operation of housing markets. Since a household's alternatives among different neighborhoods will ultimately depend on the locational decisions of the past, established racial patterns will undoubtedly be slow to change. The effects of past decades of overt discrimination may thus persist for many years.

However, perhaps the most telling explanation for the continuance of a high level of segregation rests in an insight attributable to Thomas Schelling [9]. Schelling has shown that in some plausible but very simple hypothetical situations, rather mild racial preferences can produce an extreme degree of segregation. As long as households are relatively mobile and as long as blacks or whites value racially homogeneous zones, integrated neighborhoods will be the exception and not the rule.

This line of reasoning implies that the very strong feelings of discrimination in the past were "overkill" in terms of what it takes to produce a high level of segregation. It also suggests that open housing legislation per se may not guarantee racially mixed neighborhoods, but in some instances may simply hasten the rate of neighborhood racial transition [11]. Thus, it seems possible that while recent attitudinal and policy changes have reduced the strength of discriminatory forces, even the residual forces which remain are sufficient to maintain a highly segregated housing market.

What, then, are the prospects for future improvements in the extent of racial mixing? The remarks in the last few paragraphs paint a pessimistic note. They suggest that in the absence of a radical shift in racial attitudes and in the relative status of blacks, racial segregation will continue to plague the majority of urban areas. They also suggest that the continued maintenance of the status quo will further increase the average black's isolation from this nation's whites, as minority neighborhoods expand peripherally and as black exposure to whites declines. While such projections are inherently dangerous, the experience of recent past leads one to be somewhat fatalistic.

In closing, however, we might note that there are several reasons for a more optimistic assessment of the future. To begin with, it is possible that a more vigorous enforcement of the existing fair housing laws will encourage at least a minimal increase in the incidence of stable integrated neighborhoods, and that their success might further decrease the public's resistance to racial mixing. Even if it does not, opening up areas that were previously barred to blacks will quite likely result in improved housing standards for minority households. It may also serve to relieve price pressure within established ghetto areas.

It is also possible that the recent slowdown in the rate of black immigration to metropolitan areas may reduce the proportion of blacks residing in highly segregated neighborhoods. Recent migrants may be more likely to locate in or adjacent to established black neighborhoods, perhaps near friends and relatives who may have made the move in the past. Since in the sixties, black immigration accounted for about 40 percent of black metropolitan growth, the locational patterns of migrants was undoubtedly a powerful force in preserving a fairly high level of segregation. If migration continues to grow less important--as some suspect that it will [14]--future increments in the number of blacks may be more evenly distributed throughout the metropolitan area.

Finally, it is always possible that attitudes towards race will continue to soften to the point where free choice of neighborhoods alone would produce a mild, rather than a high degree of segregation. Exposure in public places--say, at work or indirectly through the media--may ultimately increase the public's willingness to accept integration in the private sector. Future socioeconomic gains by blacks might also contribute to a significant reduction in prejudice by reducing class-related discrimination on the part of whites. Herein, it would seem, lies the real hope for the future.

REFERENCES

1. Banfield, E. C. The Unheavenly City Revisited, Boston, Little, Brown and Co., 1974.

2. Denton, J. H. Apartheid American Style, Berkeley, Diable Press, 1967

3. Duncan, O. D. and B. Duncan, "A Methodological Analysis of Segregation Indexes," American Sociological Review, 20(1955): 210-217.

4. Foley, D. L., "Institutional and Contextual Factors Affecting the Housing Choices and Minority Residents," in Hawley, A. H. and Rock, V. P. (eds.) Segregation in Residential Areas, Washington, D. C.: National Academy of Sciences, 1973.

5. Hermalin, A. I. and R. Farley, "The Potential for Residential Integration in Cities and Suburbs: Implications for the Busing Controversey," American Sociological Review, 38(1973): 595-610.

6. Kain, J. F., Race, Ethnicity, and Residential Location, Department of City and Regional Planning, Discussion Paper D75-3, Harvard University, Cambridge, Mass., 1975.

7. Marshall, H. and R. Jiobu, "Residential Segregation in United States Cities: A Causal Analysis," Social Forces, 53(1975): 449-460.

8. Pettigrew, T. F. "Attitudes on Race and Housing: A Social-Psychological View," in A. H. Hawley and V. P. Rock (eds.), Segregation In Residential Areas, Washington, D. C., National Academy of Sciences, 1973.

9. Schelling, T. "On the Ecology of Micromotices," The Public Interest, 25(1971).

10. Schnare, A. B., "Racial and Ethnic Price Differentials in an Urban Housing Market," Urban Studies, 13(1976): 107-120.

11. _____, and C. D. MacRae, "The Dynamics of Neighborhood Change," Washington, D. C., The Urban Institute, 1975.

12. Schnore, L. and P. Evensen, "Segregation and Southern Cities," American Journal of Sociology, 72(July): 58-67.

13. Sorensen, A., K. E. Taeuber, and L. J. Hollingsworth, Jr. Indexes of Racial Residential Segregation for 109 Cities in The United States, 1940 to 1970, Institute for Research on Poverty Discussion Paper 200-74, University of Wisconsin, 1974.

14. Taeuber, K. E., Race and the Metropolis: A Demographic Perspective on the 1970's, Institute for Research on Poverty Discussion Paper 205-74, University of Wisconsin, 1974.

15. _____. "The Effect of Income Redistribution on Racial Residential Segregation," Urban Affairs Quarterly, 9(1968): 3-14.

16. _____, and A. F. Taeuber, Negroes in Cities, Chicago, Aldine Publishing Co., 1965.

17. U. S. Bureau of the Census. "The Social and Economic Status of the Black Population in the United States," Current Population Reports, Special Studies, Series P-23, No. 54, 1974.

18. _____. "The Social and Economic Status of the Black Population in the United States," Current Population Reports, Special Studies, Series P-23, No. 42, 1971.

19. Van Valey, T. L. and W. C. Roof, "Measuring Residential Segregation in American Cities: Problems of Intercity Comparison," Urban Affairs Quarterly, 11(1976): 453-68.

20. Winsborough, H. H., K. E. Taeuber and A. Sorensen, Models of Change of Residential Segregation 1940-1970, Center for Demography and Ecology, Working Paper 75-27, University of Wisconsin, 1975.

21. Yinger, J. "An Analysis of Discrimination by Real Estate Brokers," Paper 252-75, Institute for Research on Poverty, University of Wisconsin-Madison, February 1975.

22. Zelder, R. E., "Racial Segregation in Urban Housing Markets," Journal of Regional Science, 10(1970): 93-105.

23. _____. "Residential Segregation: Can Nothing Be Accomplished?" Urban Affairs Quarterly, 5(1970): 265-277.

24. Zoloth, B. "An Investigation of Alternative Measures of School Segregation," Institute for Research on Poverty, Paper 229-74, University of Wisconsin, 1974.

APPENDIX A

REGIONAL DISTRIBUTIONS OF URBAN BLACKS AND WHITES BY PROPORTION BLACK IN TRACT: 1960 AND 1970

FIGURE A.1.

Regional Distribution of Urban Whites
by Proportion Black in Tract: 1970 (238 SMSAS)

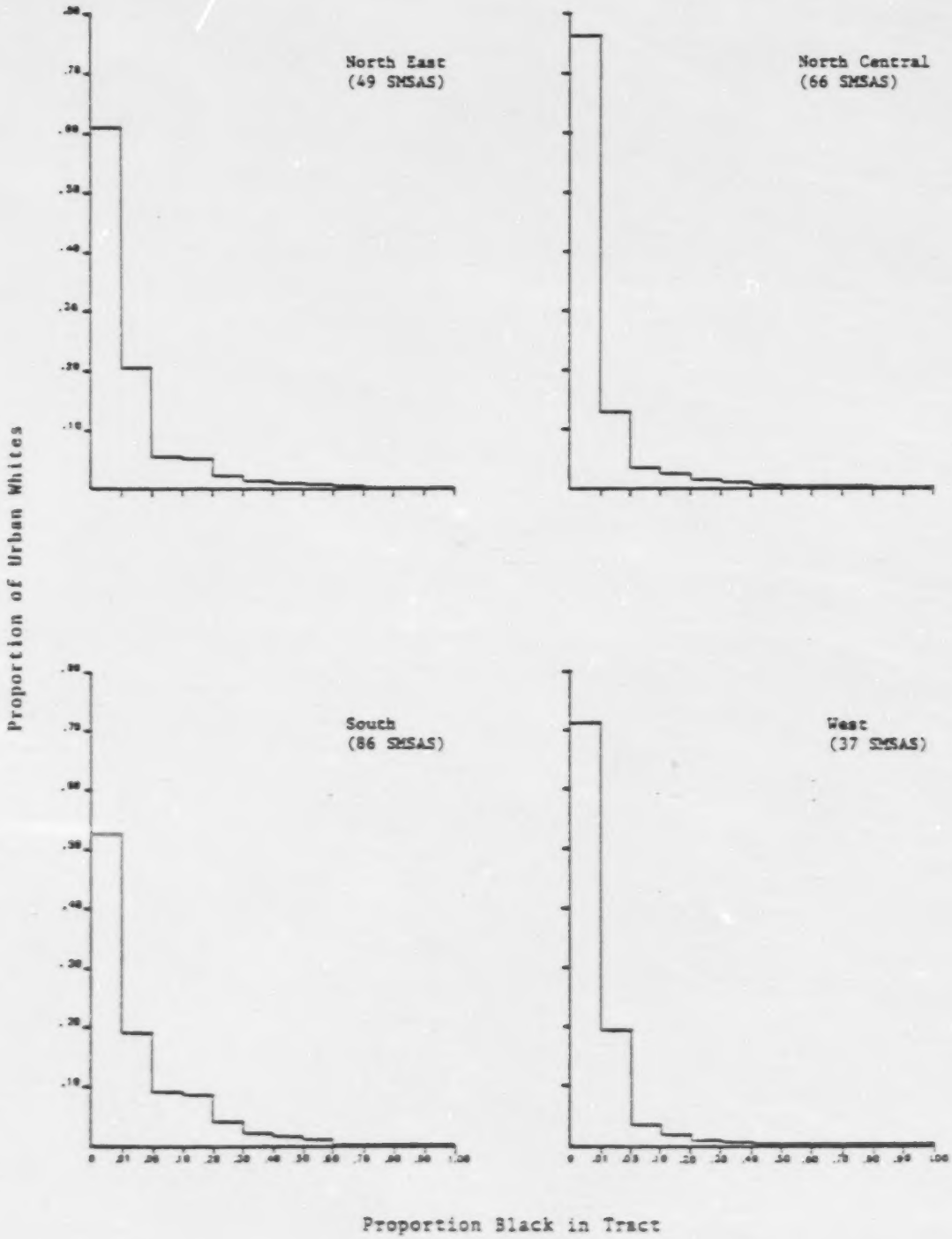


FIGURE A.2.

Regional Distribution of Urban Blacks
by Proportion Black in Tract: 1970 (238 SMSAS)

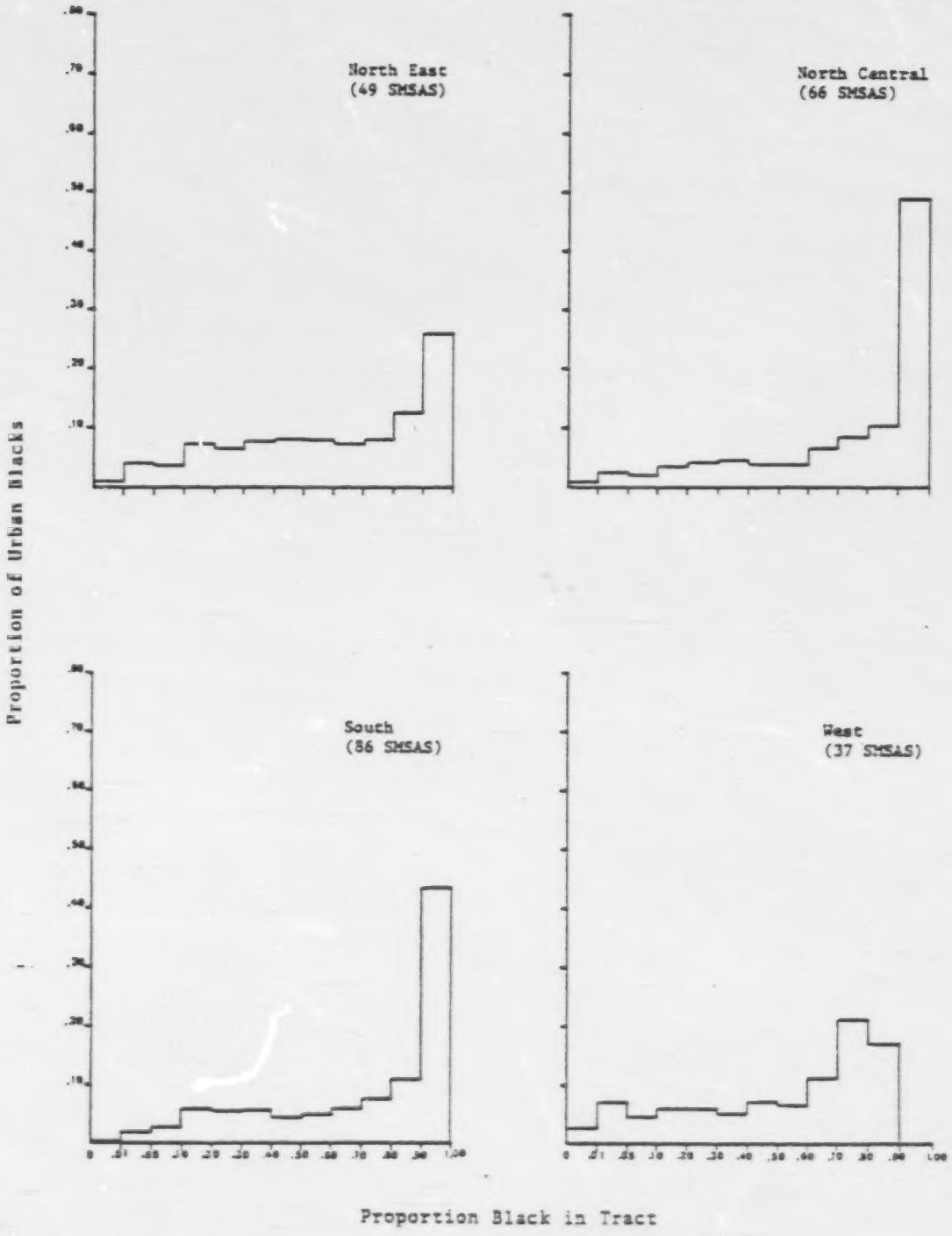


FIGURE A.3

Changes in the Regional Distributions of Urban Whites
by Proportion Black in Tract: 1960-1970 (130 SMSAS)

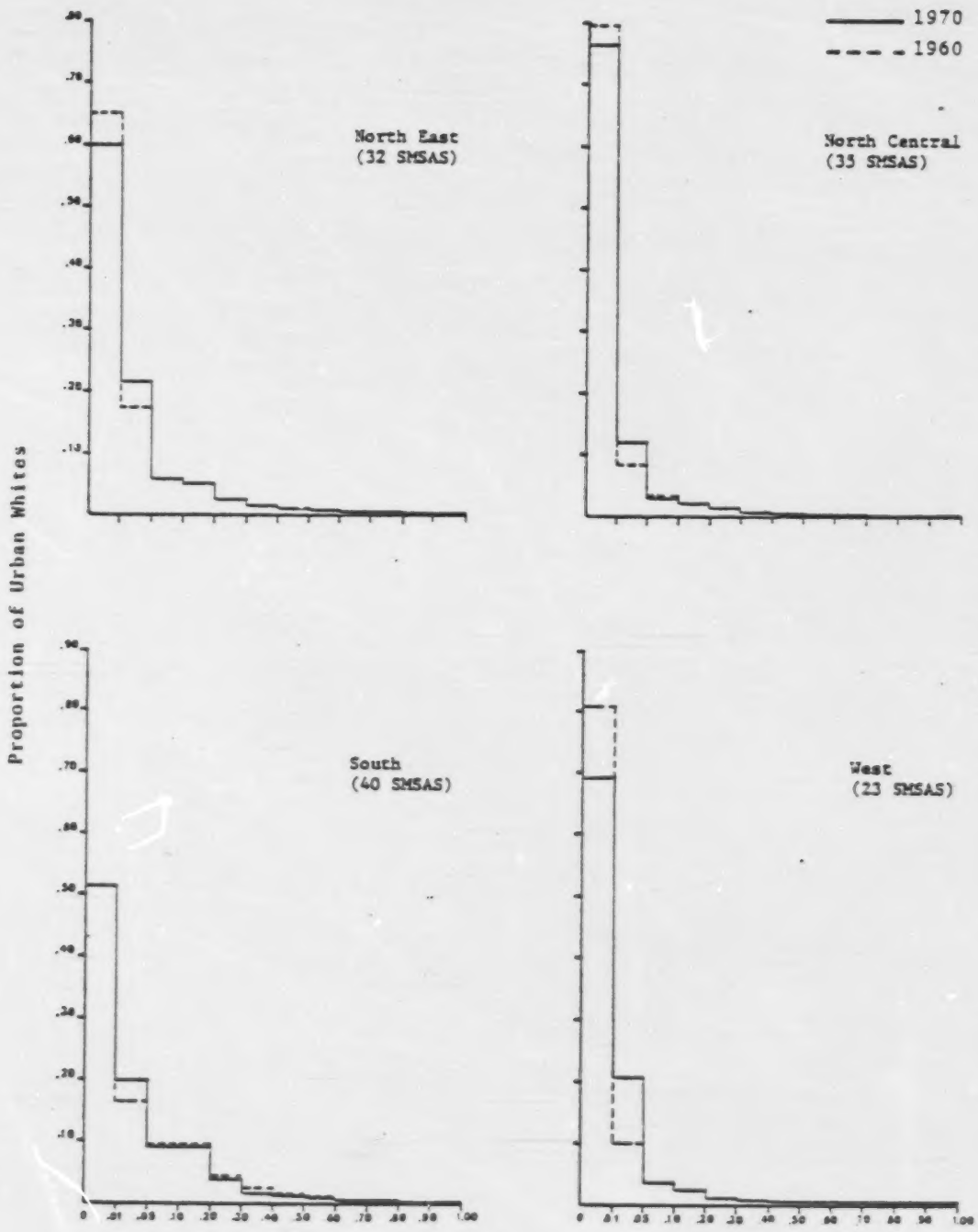
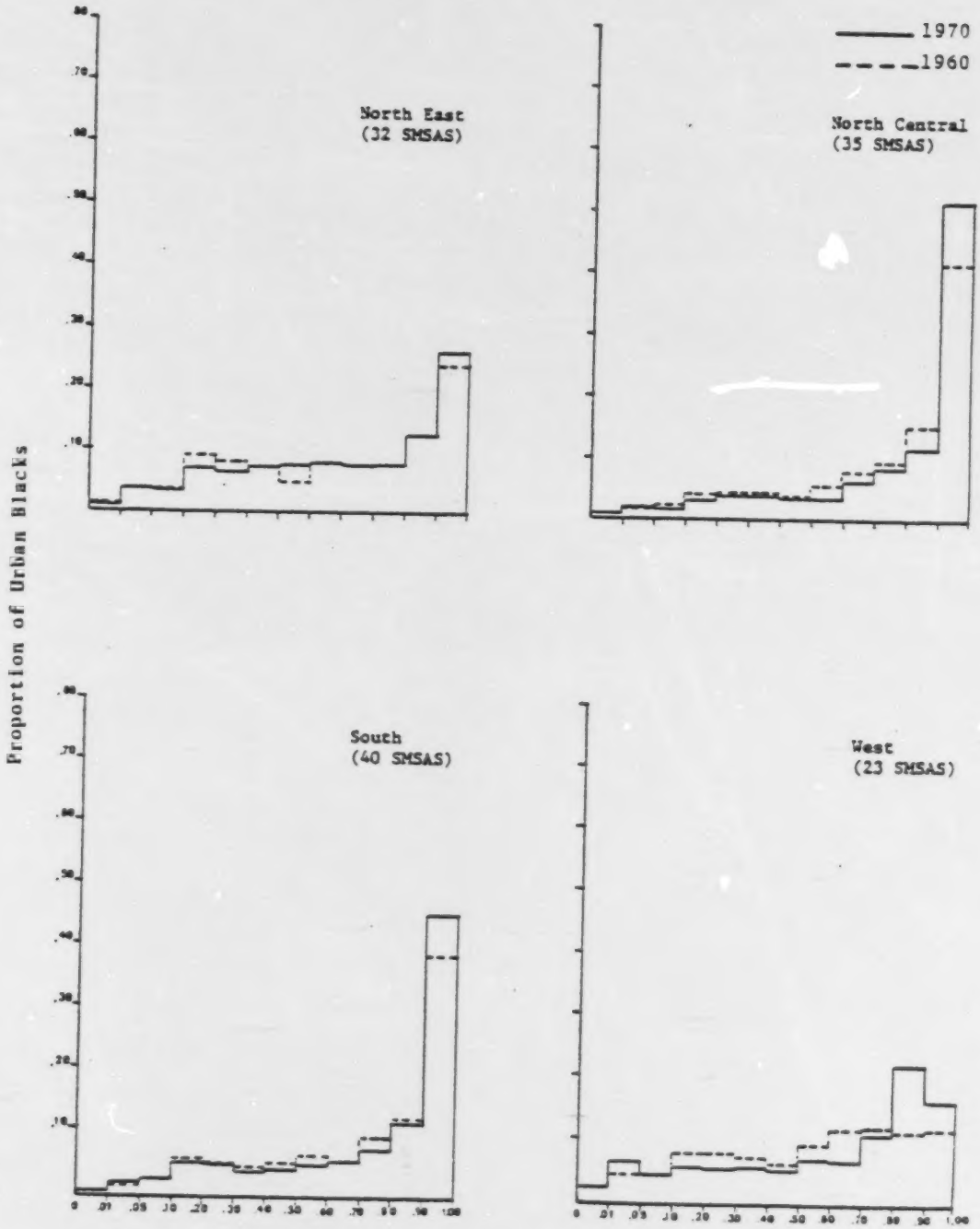


FIGURE A.4.

Changes in the Regional Distributions of Urban Blacks by Proportion Black in Tract: 1960-1970 (130 SMSAS)



APPENDIX B

MEASURES OF SEGREGATION FOR INDIVIDUAL SMSAs: 1960 AND 1970

TABLE B.1 Aggregate Measures of Segregation for Individual SMSAs: 1960-1970

	SEGREGATION INDEX		BLACK EXPOSURE TO WHITES		WHITE EXPOSURE TO BLACKS	
	1970	1960	1970	1960	1970	1960
ABILENE, TX	0.2103	N.A.	0.7439	N.A.	0.0411	N.A.
AKRON, OH	0.5069	0.4596	0.4514	0.4964	0.0401	0.0434
ALBANY, GA	0.6326	N.A.	0.2403	N.A.	0.1259	N.A.
ALBANY-SCHENECTADY-TROY, NY	0.2653	0.2028	0.7073	0.7752	0.0236	0.0201
ALBUQUERQUE, NM	0.3795	0.3983	0.8839	0.8752	0.0197	0.0161
ALLENTOWN-BETHLEHEM-EASTON, PA-NJ	0.3971	N.A.	0.8893	N.A.	0.0108	N.A.
ALTOONA, PA	0.3447	N.A.	0.9467	N.A.	0.0069	N.A.
AMARILLO, TX	0.6569	N.A.	0.3258	N.A.	0.0160	N.A.
ANAHEIM-SANTA ANA-GARDEN GROVE, CA	0.1616	N.A.	0.3119	N.A.	0.0060	N.A.
ANDERSON, IN	0.4321	N.A.	0.5399	N.A.	0.0279	N.A.
ANN ARBOR, MI	0.2574	0.4461	0.6772	0.5129	0.0572	0.0368
APPLETON-OSHKOSH, WI	0.0340	N.A.	0.9671	N.A.	0.0005	N.A.
ASHEVILLE, NC	0.4715	N.A.	0.4812	N.A.	0.0467	N.A.
ATLANTA, GA	0.7253	0.6495	0.2131	0.2704	0.0614	0.0800
ATLANTIC CITY, NJ	0.6280	N.A.	0.3053	N.A.	0.0644	N.A.
AUGUSTA, GA-SC	0.4571	N.A.	0.3864	N.A.	0.1551	N.A.
AUSTIN, TX	0.4667	0.4230	0.4709	0.4988	0.0612	0.0768
BAKERSFIELD, CA	0.4560	0.3419	0.4995	0.6073	0.0305	0.0346
BALTIMORE, MD	0.7231	0.6933	0.2151	0.2387	0.0650	0.0668
BATON ROUGE, LA	0.5860	0.5332	0.2961	0.3199	0.1171	0.1466
BAY CITY, MI	0.3584	N.A.	0.9323	N.A.	0.0059	N.A.
BEAUMONT-PORT ARTHUR-ORANGE, TX	0.6147	N.A.	0.3024	N.A.	0.0822	N.A.
BILLINGS, MT	0.0112	N.A.	0.9467	N.A.	0.0023	N.A.
BILOXI-GULFPORT, MS	0.3435	N.A.	0.5378	N.A.	0.1161	N.A.
BINGHAMTON, NY-PA	0.3489	0.0669	0.9392	0.9375	0.0081	0.0048
BIRMINGHAM, AL	0.5151	0.4859	0.3417	0.3361	0.1425	0.1778
BLOOMINGTON-NORMAL, IL	0.0460	N.A.	0.9340	N.A.	0.0178	N.A.
BOISE CITY, ID	0.0230	N.A.	0.9630	N.A.	0.0022	N.A.

BOSTON, MA	0.5744	0.4801	0.3995	0.4996	0.0192	0.0155
BRIDGEPORT, CT	0.3735	0.1795	0.5762	0.7763	0.0466	0.0427
BRISTOL, CT	0.0094	N.A.	0.9812	N.A.	0.0080	N.A.
BROCKTON, MA	0.0290	0.0372	0.9479	0.9475	0.0158	0.0109
BROWNSVILLE-HARLINGEN-SAN BENITO, TX	0.0157	N.A.	0.9791	N.A.	0.0040	N.A.
BRYAN-COLLEGE STATION, TX	0.4280	N.A.	0.4683	N.A.	0.1013	N.A.
BUFFALO, NY	0.6913	0.5583	0.2813	0.3827	0.0248	0.0261
CANTON, OH	0.3977	0.3703	0.5655	0.5952	0.0348	0.0338
CEDAR RAPIDS, IA	0.1916	N.A.	0.7991	N.A.	0.0086	N.A.
CHAMPAIGN-URBANA, IL	0.3535	N.A.	0.5929	N.A.	0.0438	N.A.
CHARLESTON, SC	0.4497	0.4677	0.3685	0.3322	0.1794	0.1994
CHARLESTON, WV	0.2285	N.A.	0.7268	N.A.	0.0428	N.A.
CHARLOTTE, NC	0.5874	0.6523	0.3160	0.2620	0.0953	0.0852
CHATTANOOGA, TN-GA	0.6019	N.A.	0.3345	N.A.	0.0632	N.A.
CHICAGO, IL	0.8316	0.8144	0.1355	0.1575	0.0295	0.0265
CINCINNATI, OH-KY-IN	0.6238	N.A.	0.3335	N.A.	0.0410	N.A.
CLEVELAND, OH	0.7696	0.7646	0.1753	0.2009	0.0338	0.0336
COLORADO SPRINGS, CO	0.1286	0.1754	0.8250	0.7841	0.0360	0.0289
COLUMBIA, MO	0.2758	N.A.	0.6799	N.A.	0.0414	N.A.
COLUMBIA, SC	0.5158	0.4793	0.3564	0.3596	0.1270	0.1607
COLUMBUS, GA-AL	0.4776	0.5250	0.3636	0.3319	0.1562	0.1418
COLUMBUS, OH	0.5960	0.5275	0.3554	0.4164	0.0470	0.0550
CORPUS CHRISTI, TX	0.3392	0.3077	0.6294	0.6599	0.0273	0.0315
DALLAS, TX	0.7574	0.6734	0.2029	0.2783	0.0386	0.0474
DAVENPORT-ROCK ISLAND-MOLINE, IA-IL	0.2830	N.A.	0.6899	N.A.	0.0239	N.A.
DAYTON, OH	0.7370	N.A.	0.2338	N.A.	0.0279	N.A.
DECATUR, IL	0.2834	0.1456	0.6589	0.8104	0.0564	0.0434
DENVER, CO	0.6070	0.5508	0.3686	0.4210	0.0159	0.0149
DES MOINES, IA	0.3543	0.3182	0.6154	0.6531	0.0265	0.0269
DETROIT, MI	0.7578	0.6855	0.1968	0.2665	0.0434	0.0466
DUBUQUE, IA	0.0036	N.A.	0.9936	N.A.	0.0017	N.A.

DULUTH-SUPERIOR, MN-WI	0.0260	N.A.	0.9580	N.A.	0.0039	N.A.
DURHAM, NC	0.5043	0.5616	0.3473	0.2912	0.1475	0.1466
EL PASO, TX	0.3621	0.3843	0.8991	0.8845	0.0260	0.0242
ERIE, PA	0.2516	0.2304	0.7117	0.7474	0.0250	0.0215
EUGENE, OR	0.3089	N.A.	0.9679	N.A.	0.0026	N.A.
EVANSVILLE, IN-KY	0.4629	0.3505	0.5057	0.5696	0.0310	0.0396
FALL RIVER, MA-RI	0.3097	0.3118	0.9670	0.9835	0.0017	0.0030
FARGO-MOORHEAD, ND-MN	0.3046	N.A.	0.9897	N.A.	0.0011	N.A.
FAYETTEVILLE, NC	0.3555	N.A.	0.4516	N.A.	0.1521	N.A.
FITCHBURG-LEOMINSTER, MA	0.0417	N.A.	0.9382	N.A.	0.0073	N.A.
FLINT, MI	0.6326	0.6560	0.3215	0.3098	0.0450	0.0336
FORT LAUDERDALE-HOLLYWOOD, FL	0.8582	N.A.	0.1238	N.A.	0.0177	N.A.
FORT SMITH, AR-OK	0.2114	N.A.	0.7372	N.A.	0.0333	N.A.
FORT WAYNE, IN	0.4809	0.3428	0.4816	0.6149	0.0357	0.0327
FORT WORTH, TX	0.7009	0.7022	0.2658	0.2657	0.0323	0.0318
FRESNO, CA	0.5110	0.4368	0.4488	0.5133	0.0238	0.0264
GADSDEN, AL	0.4911	0.3234	0.4465	0.5721	0.0721	0.1044
GAINESVILLE, FL	0.3011	N.A.	0.5413	N.A.	0.1558	N.A.
GALVESTON-TEXAS CITY, TX	0.4827	0.4320	0.4125	0.4463	0.1017	0.1211
GARY-HAMMOND-EAST CHICAGO, IN	0.7656	0.7624	0.1917	0.2012	0.0419	0.0361
GRAND RAPIDS, MI	0.5872	N.A.	0.3921	N.A.	0.0177	N.A.
GREAT FALLS, MT	0.0551	N.A.	0.8975	N.A.	0.0117	N.A.
GREEN BAY, WI	0.0332	N.A.	0.9856	N.A.	0.0004	N.A.
GREENSBORO--WINSTON-SALEM--HIGH POINT, NC	0.5380	0.5426	0.2888	0.3515	0.0719	0.0949
GREENVILLE, SC	0.2218	0.1903	0.6598	0.6672	0.1171	0.1420
HAMILTON-MIDDLETOWN, OH	0.4374	0.4028	0.5338	0.5657	0.0278	0.0309
HARRISBURG, PA	0.4718	0.4059	0.4900	0.5535	0.0360	0.0399
HARTFORD, CT	0.5834	0.4776	0.3816	0.4929	0.0318	0.0285
HONOLULU, HI	0.0322	0.0277	0.6216	0.6215	0.0157	0.0173
HOUSTON, TX	0.6148	0.6607	0.3087	0.2709	0.0738	0.0672
HUNTINGTON-ASHLAND, WV-KY-OH	0.2541	N.A.	0.7249	N.A.	0.0205	N.A.

HUNTSVILLE, AL	0.3111	N.A.	0.5880	N.A.	0.0994	N.A.
INDIANAPOLIS, IN	0.6636	0.6124	0.2939	0.3312	0.0416	0.0556
JACKSON, MI	0.3904	0.3540	0.5783	0.6199	0.0278	0.0251
JACKSON, MS	0.6003	N.A.	0.2515	N.A.	0.1478	N.A.
JACKSONVILLE, FL	0.7296	N.A.	0.2071	N.A.	0.0622	N.A.
JERSEY CITY, NJ	0.4653	N.A.	0.4761	N.A.	0.0538	N.A.
JOHNSTOWN, PA	0.1971	N.A.	0.7911	N.A.	0.0110	N.A.
KALAMAZOO, MI	0.4196	N.A.	0.5489	N.A.	0.0279	N.A.
KANSAS CITY, MO-KS	0.7139	N.A.	0.2504	N.A.	0.0344	N.A.
KENOSHA, WI	0.3919	N.A.	0.6894	N.A.	0.0148	N.A.
KNOXVILLE, TN	0.5367	N.A.	0.4297	N.A.	0.0326	N.A.
LAFAYETTE, LA	0.3577	N.A.	0.5003	N.A.	0.1416	N.A.
LAFAYETTE-WEST LAFAYETTE, IN	0.0484	N.A.	0.9325	N.A.	0.0086	N.A.
LAKE CHARLES, LA	0.5098	N.A.	0.3835	N.A.	0.1059	N.A.
LANCASTER, PA	0.2498	0.1797	0.7324	0.8391	0.0123	0.0105
LANSING, MI	0.3925	N.A.	0.5796	N.A.	0.0230	N.A.
LAREDO, TX	0.3560	0.0067	0.9361	0.9886	0.0037	0.0032
LAS VEGAS, NV	0.7953	N.A.	0.1831	N.A.	0.0184	N.A.
LAWRENCE-HAVERHILL, MA-NH	0.0140	N.A.	0.9773	N.A.	0.0059	N.A.
LAWTON, OK	0.4445	N.A.	0.4804	N.A.	0.0547	N.A.
LEWISTON-AUBURN, ME	0.0062	N.A.	0.9921	N.A.	0.0014	N.A.
LEXINGTON, KY	0.4711	0.4228	0.4596	0.4890	0.0682	0.0877
LIMA, OH	0.4796	0.3198	0.4922	0.6317	0.0271	0.0480
LINCOLN, NE	0.0931	N.A.	0.8824	N.A.	0.0115	N.A.
LITTLE ROCK-NORTH LITTLE ROCK, AR	0.5312	0.4483	0.3809	0.4331	0.0869	0.1179
LORAIN-ELYRIA, OH	0.2043	0.1645	0.7408	0.7866	0.0506	0.0469
LOS ANGELES-LONG BEACH, CA	0.7120	0.6542	0.2425	0.3045	0.0307	0.0229
LOUISVILLE, KY-IN	0.6622	0.5643	0.2960	0.3854	0.0411	0.0499
LOWELL, MA	0.2226	0.3168	0.9708	0.9776	0.0044	0.0033
LUBBOCK, TX	0.5434	N.A.	0.4203	N.A.	0.0347	N.A.
LYNCHBURG, VA	0.2602	N.A.	0.5898	N.A.	0.1490	N.A.

MACON, GA	0.4036	N.A.	0.4227	N.A.	0.1731	N.A.
MADISON, WI	0.0427	0.1132	0.9329	0.8736	0.0084	0.0062
MANCHESTER, NH	0.0042	0.0048	0.9924	0.9924	0.0019	0.0019
MANSFIELD, OH	0.2821	N.A.	0.6742	N.A.	0.0432	N.A.
MC ALLEN-PHARR-EDINBURG, TX	0.0050	N.A.	0.9914	N.A.	0.0022	N.A.
MEMPHIS, TN-AR	0.5821	0.5903	0.1960	0.2584	0.1211	0.1508
MERIDEN, CT	0.0379	N.A.	0.9335	N.A.	0.0248	N.A.
MIAMI, FL	0.7255	0.7720	0.2320	0.1941	0.0413	0.0335
MIDLAND, TX	0.4629	N.A.	0.4845	N.A.	0.0526	N.A.
MILWAUKEE, WI	0.7191	0.6430	0.2565	0.3353	0.0212	0.0188
MINNEAPOLIS-ST PAUL, MN	0.3896	0.3137	0.5818	0.6691	0.0104	0.0095
MOBILE, AL	0.5842	N.A.	0.2897	N.A.	0.1246	N.A.
MODESTO, CA	0.1202	N.A.	0.8627	N.A.	0.0083	N.A.
MONROE, LA	0.5655	N.A.	0.2419	N.A.	0.0910	N.A.
MONTGOMERY, AL	0.4312	0.6066	0.3699	0.2412	0.1984	0.1519
MUNCIE, IN	0.7069	0.5525	0.2756	0.4231	0.0170	0.0232
MUSKEGON-MUSKEGON HEIGHTS, MI	0.6015	N.A.	0.3536	N.A.	0.0423	N.A.
NASHVILLE-DAVIDSON, TN	0.6346	0.6306	0.2992	0.2937	0.0651	0.0702
NEW BEDFORD, MA	0.1422	N.A.	0.8298	N.A.	0.0200	N.A.
NEW BRITAIN, CT	0.0598	0.0576	0.9105	0.9213	0.0253	0.0201
NEW HAVEN, CT	0.3681	0.3135	0.5355	0.6307	0.0721	0.0536
NEW LONDON-GROTON-NORWICH, CT	0.1186	N.A.	0.8370	N.A.	0.0298	N.A.
NEW ORLEANS, LA	0.6097	0.5184	0.2679	0.3325	0.1214	0.1481
NEW YORK CITY, NY	0.5261	0.5383	0.3892	0.4358	0.0766	0.0527
NEWARK, NJ	0.5169	N.A.	0.3082	N.A.	0.0717	N.A.
NEWPORT NEWS-HAMPTON, VA	0.6031	N.A.	0.2916	N.A.	0.1028	N.A.
NORFOLK-PORTSMOUTH, VA	0.6953	0.6798	0.2222	0.2294	0.0794	0.0900
NORWALK, CT	0.2455	N.A.	0.6898	N.A.	0.0607	N.A.
ODESSA, TX	0.4097	0.3768	0.5604	0.5897	0.0293	0.0330
OGDEN, UT	0.1716	0.1492	0.7869	0.8167	0.0131	0.0132
OKLAHOMA CITY, OK	0.7596	N.A.	0.2140	N.A.	0.0206	N.A.

OMAHA, NE-IA	0.6163	0.5920	0.3523	0.3826	0.0258	0.0234
ORLANDO, FL	0.6403	N.A.	0.3059	N.A.	0.0529	N.A.
OXNARD-VENTURA, CA	0.3884	N.A.	0.8613	N.A.	0.0148	N.A.
PATERSON-CLIFTON-PASSAIC, NJ	0.4428	N.A.	0.5224	N.A.	0.0306	N.A.
PENSACOLA, FL	0.4523	N.A.	0.4463	N.A.	0.0972	N.A.
PEORIA, IL	0.5131	0.4239	0.4660	0.5550	0.0213	0.0202
PHILADELPHIA, PA-NJ	0.6251	N.A.	0.3066	N.A.	0.0655	N.A.
PHOENIX, AZ	0.3658	0.3916	0.5988	0.5731	0.0213	0.0229
PINE BLUFF, AR	0.4637	N.A.	0.3182	N.A.	0.2174	N.A.
PITTSBURGH, PA	0.5139	0.4332	0.4501	0.5282	0.0343	0.0379
PITTSFIELD, MA	0.3664	N.A.	0.8972	N.A.	0.0139	N.A.
PORTLAND, ME	0.2126	0.2143	0.9826	0.9808	0.0020	0.0032
PORTLAND, OR-WA	0.4119	0.4013	0.5644	0.5756	0.0135	0.0120
PROVIDENCE-PAWTUCKET-WARWICK, RI-MA	0.2487	0.1774	0.7235	0.8028	0.0165	0.0143
PROVO-OREM, UT	0.0018	N.A.	0.9960	N.A.	0.0002	N.A.
PUEBLO, CO	0.3463	0.3647	0.9346	0.9150	0.0161	0.0168
RACINE, WI	0.3426	N.A.	0.6130	N.A.	0.0410	N.A.
RALEIGH, NC	0.4549	0.4226	0.4185	0.4215	0.1242	0.1554
READING, PA	0.1758	0.1164	0.8016	0.8676	0.0179	0.0150
RENO, NV	0.0863	N.A.	0.8738	N.A.	0.0155	N.A.
RICHMOND, VA	0.6514	0.6601	0.2598	0.2537	0.0677	0.0688
ROANOKE, VA	0.6034	N.A.	0.3511	N.A.	0.0451	N.A.
ROCHESTER, MN	0.3026	N.A.	0.9896	N.A.	0.0022	N.A.
ROCHESTER, NY	0.4638	0.4179	0.4796	0.5563	0.0338	0.0240
ROCKFORD, IL	0.3652	0.2668	0.6008	0.7027	0.0375	0.0300
SACRAMENTO, CA	0.2352	0.2350	0.6858	0.6801	0.0350	0.0278
SAGINAW, MI	0.5833	0.5326	0.3649	0.4206	0.0509	0.0460
ST JOSEPH, MO	0.3757	N.A.	0.8982	N.A.	0.0245	N.A.
ST LOUIS, MO-IL	0.7267	0.7182	0.2283	0.2408	0.0438	0.0404
SALEM, OR	0.3134	N.A.	0.9708	N.A.	0.0020	N.A.
SALINAS-MONTEREY, CA	0.2933	N.A.	0.6205	N.A.	0.0246	N.A.

SALT LAKE CITY, UT	0.3533	0.3427	0.9148	0.9247	0.0050	0.0042
SAN ANGELO, TX	0.4557	N.A.	0.5204	N.A.	0.0231	N.A.
SAN ANTONIO, TX	0.4918	0.4127	0.4706	0.5465	0.0340	0.0384
SAN BERNARDINO-RIVERSIDE-ONTARIO, CA	0.2378	0.2195	0.7169	0.7427	0.0327	0.0277
SAN DIEGO, CA	0.4815	0.3920	0.4685	0.5574	0.0219	0.0217
SAN FRANCISCO-OAKLAND, CA	0.5414	0.4999	0.3745	0.4286	0.0474	0.0421
SAN JOSE, CA	0.0457	0.0374	0.8950	0.9151	0.0159	0.0060
SANTA BARBARA, CA	0.3480	0.0574	0.9096	0.9017	0.0221	0.0149
SANTA ROSA, CA	0.3261	N.A.	0.9314	N.A.	0.0085	N.A.
SAVANNAH, GA	0.5831	0.5741	0.2062	0.2808	0.1102	0.1447
SCRANTON, PA	0.0432	N.A.	0.9060	N.A.	0.0033	N.A.
SEATTLE-EVERETT, WA	0.4435	0.4215	0.4811	0.4589	0.0149	0.0123
SHERMAN-DENISON, TX	0.1726	N.A.	0.7581	N.A.	0.0655	N.A.
SHREVEPORT, LA	0.5564	0.5984	0.2247	0.2646	0.1085	0.1966
SIOUX CITY, IA-NE	0.0540	N.A.	0.9019	N.A.	0.0086	N.A.
SIOUX FALLS, SD	0.0063	N.A.	0.9639	N.A.	0.0019	N.A.
SOUTH BEND, IN	0.4061	0.3791	0.5514	0.5824	0.0404	0.0374
SPOKANE, WA	0.3729	0.1139	0.8971	0.6438	0.0103	0.0091
SPRINGFIELD, IL	0.3399	N.A.	0.6258	N.A.	0.0321	N.A.
SPRINGFIELD, MO	0.1075	0.0789	0.8761	0.9044	0.0132	0.0154
SPRINGFIELD, OH	0.3949	0.2739	0.5534	0.6578	0.0507	0.0677
SPRINGFIELD-CHICOPEE-HOLYOKE, MA-CT	0.3601	N.A.	0.5899	N.A.	0.0279	N.A.
STAMFORD, CT	0.2532	0.1295	0.6882	0.8242	0.0545	0.0439
STEUBENVILLE-WEIRTON, OH-WV	0.2573	0.1867	0.7094	0.7773	0.0311	0.0351
STOCKTON, CA	0.2738	0.2542	0.6162	0.6331	0.0379	0.0328
SYRACUSE, NY	0.3643	0.4253	0.5850	0.5568	0.0216	0.0124
TACOMA, WA	0.2008	0.1822	0.7434	0.7737	0.0282	0.0180
TALLAHASSEE, FL	0.4558	N.A.	0.4118	N.A.	0.1306	N.A.
TAMPA-ST PETERSBURG, FL	0.6783	0.5933	0.2960	0.3597	0.0347	0.0466
TERRE HAUTE, IN	0.1794	N.A.	0.7955	N.A.	0.0233	N.A.
TEXARKANA, TX-AR	0.2191	N.A.	0.6074	N.A.	0.1723	N.A.

TOLEDO, OH-MI	0.5956	0.6415	0.3689	0.3240	0.0333	0.0336
TOPEKA, KS	0.1941	0.1479	0.7465	0.7878	0.0581	0.0571
TRENTON, NJ	0.4169	N.A.	0.4847	N.A.	0.0963	N.A.
TUCSON, AZ	0.1718	0.2370	0.7828	0.7211	0.0238	0.0234
TULSA, OK	0.7006	N.A.	0.2649	N.A.	0.0242	N.A.
TUSCALOOSA, AL	0.3703	N.A.	0.4678	N.A.	0.1617	N.A.
TYLER, TX	0.4512	0.4104	0.4155	0.4299	0.1325	0.1594
UTICA-ROME, NY	0.1771	0.3375	0.8002	0.6807	0.0188	0.0100
VALLEJO-NAPA, CA	0.2610	N.A.	0.6297	N.A.	0.0478	N.A.
VINELAND-MILLVILLE-BRIDGETON, NJ	0.3203	N.A.	0.5772	N.A.	0.0924	N.A.
WACO, TX	0.4826	0.4328	0.4314	0.4743	0.0853	0.0923
WASHINGTON, DC-MD-VA	0.7117	0.6653	0.2145	0.2506	0.0706	0.0814
WATERBURY, CT	0.2383	0.1377	0.7171	0.8255	0.0414	0.0350
WATERLOO, IA	0.4581	0.4892	0.5135	0.4893	0.0270	0.0202
WEST PALM BEACH, FL	0.5798	N.A.	0.2631	N.A.	0.0561	N.A.
WHEELING, WV-OH	0.1311	N.A.	0.8780	N.A.	0.0198	N.A.
WICHITA, KS	0.7325	0.6401	0.2640	0.3172	0.0204	0.0202
WICHITA FALLS, TX	0.6221	N.A.	0.3490	N.A.	0.0276	N.A.
WILKES-BARRE--HAZLETON, PA	0.9434	0.0343	0.9504	0.9617	0.0053	0.0030
WILMINGTON, DE-NJ-MD	0.4457	N.A.	0.4826	N.A.	0.0684	N.A.
WILMINGTON, NC	0.4441	N.A.	0.4197	N.A.	0.1343	N.A.
WORCESTER, MA	0.9631	0.0450	0.9198	0.9462	0.0097	0.0064
YORK, PA	0.2806	N.A.	0.7194	N.A.	0.0175	N.A.
YOUNGSTOWN-WARREN, OH	0.4673	N.A.	0.4823	N.A.	0.0485	N.A.

TABLE B.2. BLACK EXPOSURE TO WHITES, BY NEIGHBORHOOD TYPE

	LOW INCOME TRACTS		MIDDLE INCOME TRACTS		HIGH INCOME TRACTS	
	1970	1960	1970	1960	1970	1960
ABILENE, TX	0.7562	N.A.	0.5824	N.A.	0.9533	N.A.
AKRON, OH	0.3963	0.4177	0.9112	0.8125	0.9379	0.9837
ALBANY, GA	0.1334	N.A.	0.7725	N.A.	0.8427	N.A.
ALBANY-SCHENECTADY-TROY, NY	0.6571	0.7397	0.9680	0.9706	0.9799	0.9924
ALBUQUERQUE, NM	0.8500	0.8634	0.9558	0.8877	0.9773	0.9632
ALLENTOWN-BETHLEHEM-EASTON, PA-NJ	0.9691	N.A.	0.9831	N.A.	0.9455	N.A.
ALTOONA, PA	0.9396	N.A.	0.9946	N.A.	0.9961	N.A.
AMARILLO, TX	0.2495	N.A.	0.7913	N.A.	0.9939	N.A.
ANAHEIM-SANTA ANA-GARDEN GROVE, CA	0.7765	N.A.	0.9715	N.A.	0.9810	N.A.
ANDERSON, IN	0.4765	N.A.	0.8200	N.A.	0.9756	N.A.
ANN ARBOR, MI	0.5758	0.4184	0.9027	0.9242	0.8863	0.8974
APPLETON-OSHKOSH, WI	0.9309	N.A.	0.9859	N.A.	0.9893	N.A.
ASHEVILLE, NC	0.3254	N.A.	0.8152	N.A.	0.9061	N.A.
ATLANTA, GA	0.1469	0.1831	0.7465	0.6800	0.4245	0.9095
ATLANTIC CITY, NJ	0.1395	N.A.	0.7332	N.A.	0.7869	N.A.
AUGUSTA, GA-SC	0.2346	N.A.	0.6012	N.A.	0.7243	N.A.
AUSTIN, TX	0.4002	0.4109	0.9343	0.8664	0.9618	0.9756
BAKERSFIELD, CA	0.3564	0.5272	0.9035	0.8678	0.9585	0.9746
BALTIMORE, MD	0.1284	0.1663	0.3475	0.5172	0.7829	0.8124
BATON ROUGE, LA	0.1952	0.2079	0.5781	0.7319	0.7476	0.6547
BAY CITY, MI	0.9312	N.A.	0.9260	N.A.	0.9928	N.A.
BEAUMONT-PORT ARTHUR-ORANGE, TX	0.2640	N.A.	0.9070	N.A.	0.8080	N.A.
BILLINGS, MT	0.9119	N.A.	0.9889	N.A.	0.9890	N.A.
BILOXI-GULFPORT, MS	0.4475	N.A.	0.8147	N.A.	0.9420	N.A.
BINGHAMTON, NY-PA	0.9968	0.8894	0.9749	0.9932	0.9846	0.9969
BIRMINGHAM, AL	0.2514	0.2148	0.5484	0.6005	0.9161	0.8902
BLOOMINGTON-NORMAL, IL	0.9151	N.A.	0.9815	N.A.	0.9793	N.A.

BOISE CITY, ID	0.9652	N.A.	0.9858	N.A.	0.9932	N.A.
BOSTON, MA	0.3370	0.4500	0.8900	0.9277	0.9750	0.9854
BRIDGEPORT, CT	0.5387	0.7516	0.9498	0.9794	0.9810	0.9872
BRISTOL, CT	0.9925	N.A.	0.9768	N.A.	0.9787	N.A.
BROCKTON, MA	0.9236	0.9322	0.9793	0.9925	0.9834	0.9941
BROWNSVILLE-HARLINGEN-SAN BENITO, TX	0.9670	N.A.	0.9851	N.A.	0.9895	N.A.
BRYAN-COLLEGE STATION, TX	0.3895	N.A.	0.6869	N.A.	0.9170	N.A.
BUFFALO, NY	0.2481	0.3551	0.9666	0.9665	0.9441	0.8379
CANTON, OH	0.5405	0.5649	0.9741	0.9568	0.9791	0.9922
CEDAR RAPIDS, IA	0.7523	N.A.	0.9925	N.A.	0.9890	N.A.
CHAMPAIGN-URBANA, IL	0.5092	N.A.	0.9380	N.A.	0.9478	N.A.
CHARLESTON, SC	0.2404	0.2074	0.6185	0.6304	0.7592	0.8893
CHARLESTON, WV	0.7218	N.A.	0.6016	N.A.	0.9222	N.A.
CHARLOTTE, NC	0.2193	0.1970	0.7800	0.8421	0.8718	0.9360
CHATTANOOGA, TN-GA	0.2335	N.A.	0.9166	N.A.	0.8353	N.A.
CHICAGO, IL	0.2963	0.1359	0.2865	0.3488	0.5735	0.5937
CINCINNATI, OH-KY-IN	0.2526	N.A.	0.5145	N.A.	0.7730	N.A.
CLEVELAND, OH	0.1395	0.1687	0.3842	0.6948	0.5136	0.9901
COLORADO SPRINGS, CO	0.7627	0.7575	0.9538	0.9323	0.9685	0.9744
COLUMBIA, MO	0.5159	N.A.	0.9682	N.A.	0.9710	N.A.
COLUMBIA, SC	0.2386	0.2338	0.7204	0.7459	0.8484	0.8840
COLUMBUS, GA-AL	0.2317	0.2024	0.6628	0.5599	0.5084	0.8652
COLUMBUS, OH	0.3353	0.3894	0.3719	0.5312	0.8933	0.9822
CORPUS CHRISTI, TX	0.5494	0.5956	0.9434	0.8803	0.9925	0.9962
DALLAS, TX	0.1564	0.2255	0.4877	0.7485	0.9283	0.9431
DAVENPORT-ROCK ISLAND-MOLINE, IA-IL	0.6514	N.A.	0.9714	N.A.	0.9855	N.A.
DAYTON, OH	0.1674	N.A.	0.6457	N.A.	0.4425	N.A.
DECATUR, IL	0.6486	0.7659	0.9362	0.8263	0.5237	0.8530
DENVER, CO	0.3214	0.4124	0.4352	0.3831	0.9455	0.9648
DES MOINES, IA	0.5636	0.5277	0.9766	0.9728	0.9685	0.9955
DETROIT, MI	0.1756	0.2506	0.3449	0.4786	0.3892	0.7583

DUBUQUE, IA	0.9922	N.A.	0.9979	N.A.	0.9926	N.A.
DULUTH-SUPERIOR, MN-WI	0.9452	N.A.	0.9738	N.A.	0.9800	N.A.
DURHAM, NC	0.2476	0.1548	0.5293	0.8328	0.9278	0.7361
EL PASO, TX	0.9556	0.8782	0.9461	0.8867	0.9611	0.9549
ERIE, PA	0.6710	0.7140	0.9786	0.9268	0.9877	0.9699
EUGENE, OR	0.9652	N.A.	0.9642	N.A.	0.9825	N.A.
EVANSVILLE, IN-KY	0.4535	0.4877	0.9410	0.8362	0.9868	0.9747
FALL RIVER, MA-RI	0.9517	0.9795	0.9891	0.9919	0.9916	0.9975
FARGO-MOORHEAD, ND-MN	0.9949	N.A.	0.9890	N.A.	0.9885	N.A.
FAYETTEVILLE, NC	0.3635	N.A.	0.7354	N.A.	0.3900	N.A.
FITCHBURG-LEOMINSTER, MA	0.9211	N.A.	0.9843	N.A.	0.9926	N.A.
FLINT, MI	0.2722	0.2667	0.6987	0.5313	0.3603	0.9142
FORT LAUDERDALE-HOLLYWOOD, FL	0.1345	N.A.	0.3596	N.A.	0.9528	N.A.
FORT SMITH, AR-OK	0.6601	N.A.	0.9172	N.A.	0.9613	N.A.
FORT WAYNE, IN	0.4558	0.5926	0.9836	0.8082	0.9829	0.9976
FORT WORTH, TX	0.2036	0.2173	0.6877	0.8402	0.9642	0.9785
FRESNO, CA	0.3694	0.4872	0.9255	0.9109	0.9618	0.9820
GADSDEN, AL	0.2991	0.4326	0.6758	0.7435	0.6620	0.5701
GAINESVILLE, FL	0.4467	N.A.	0.6916	N.A.	0.7609	N.A.
GALVESTON-TEXAS CITY, TX	0.3411	0.3372	0.6514	0.7927	0.7638	0.8662
GARY-HAMMOND-EAST CHICAGO, IN	0.1654	0.1562	0.1142	0.7691	0.7760	0.9906
GRAND RAPIDS, MI	0.3248	N.A.	0.9726	N.A.	0.8411	N.A.
GREAT FALLS, MT	0.9918	N.A.	0.9494	N.A.	0.9948	N.A.
GREEN BAY, WI	0.9812	N.A.	0.9924	N.A.	0.9869	N.A.
GREENSBORO--WINSTON-SALEM--HIGH POINT, NC	0.1937	0.2270	0.5950	0.8025	0.6392	0.8973
GREENVILLE, SC	0.5380	0.5548	0.8424	0.7763	0.7351	0.7526
HAMILTON-MIDDLETOWN, OH	0.4933	0.5120	0.9822	0.9485	0.9540	0.7151
HARRISBURG, PA	0.4093	0.4665	0.8364	0.8690	0.9056	0.8042
HARTFORD, CT	0.2903	0.4375	0.7166	0.7543	0.9570	0.9742
HONOLULU, HI	0.6807	0.6739	0.5238	0.5122	0.3629	0.4763
HOUSTON, TX	0.2498	0.2118	0.5406	0.6552	0.8720	0.8648

HUNTINGTON-ASHLAND, WV-KY-OH	0.8151	N.A.	0.5878	N.A.	0.9398	N.A.
HUNTSVILLE, AL	0.4687	N.A.	0.7251	N.A.	0.8192	N.A.
INDIANAPOLIS, IN	0.2263	0.2932	0.3820	0.6507	0.7619	0.4894
JACKSON, MI	0.5516	0.5777	0.9859	0.9209	0.9976	0.9947
JACKSON, MS	0.1482	N.A.	0.6515	N.A.	0.8224	N.A.
JACKSONVILLE, FL	0.1590	N.A.	0.4515	N.A.	0.9212	N.A.
JERSEY CITY, NJ	0.4215	N.A.	0.5272	N.A.	0.7751	N.A.
JOHNSTOWN, PA	0.7179	N.A.	0.9129	N.A.	0.9802	N.A.
KALAMAZOO, MI	0.5028	N.A.	0.9813	N.A.	0.9709	N.A.
KANSAS CITY, MO-KS	0.2342	N.A.	0.6979	N.A.	0.9688	N.A.
KENOSHA, WI	0.8923	N.A.	0.8821	N.A.	0.9829	N.A.
KNOXVILLE, TN	0.3401	N.A.	0.7915	N.A.	0.7888	N.A.
LAFAYETTE, LA	0.3800	N.A.	0.8215	N.A.	0.9166	N.A.
LAFAYETTE-WEST LAFAYETTE, IN	0.9144	N.A.	0.9872	N.A.	0.9897	N.A.
LAKE CHARLES, LA	0.2466	N.A.	0.7398	N.A.	0.9295	N.A.
LANCASTER, PA	0.7187	0.7790	0.9888	0.9879	0.9929	0.9594
LANSING, MI	0.5014	N.A.	0.9591	N.A.	0.6597	N.A.
LAREDO, TX	0.9944	0.9529	0.9813	0.9941	0.9238	0.9804
LAS VEGAS, NV	0.1464	N.A.	0.9193	N.A.	0.9667	N.A.
LAWRENCE-HAVERHILL, MA-NH	0.9721	N.A.	0.9879	N.A.	0.9870	N.A.
LAWTON, OK	0.3554	N.A.	0.5048	N.A.	0.9331	N.A.
LEWISTON-AUBURN, ME	0.9959	N.A.	0.9695	N.A.	0.9970	N.A.
LEXINGTON, KY	0.4008	0.4371	0.8303	0.8259	0.8679	0.9764
LIMA, OH	0.4129	0.5627	0.9541	0.9635	0.9047	0.9024
LINCOLN, NE	0.6637	N.A.	0.9799	N.A.	0.9932	N.A.
LITTLE ROCK-NORTH LITTLE ROCK, AR	0.3217	0.3263	0.9662	0.7935	0.9827	0.9500
LORAIN-ELYRIA, OH	0.7351	0.7587	0.7285	0.9163	0.9032	0.9270
LOS ANGELES-LONG BEACH, CA	0.1904	0.2832	0.4650	0.5072	0.5551	0.7576
LOUISVILLE, KY-IN	0.2536	0.3317	0.4148	0.6088	0.9358	0.9076
LOWELL, MA	0.9546	0.9698	0.9907	0.9938	0.9905	0.9965
LUBBOCK, TX	0.3382	N.A.	0.7035	N.A.	0.9956	N.A.

LYNCHBURG, VA	0.4632	N.A.	0.7477	N.A.	0.9395	N.A.
MACON, GA	0.3041	N.A.	0.7244	N.A.	0.8385	N.A.
MADISON, WI	0.9127	0.8397	0.9784	0.9585	0.9826	0.9881
MANCHESTER, NH	0.9915	0.9953	0.9921	0.9900	0.9932	0.9973
MANSFIELD, OH	0.6569	N.A.	0.9741	N.A.	0.9905	N.A.
MC ALLEN-PHARR-EDINBURG, TX	0.9938	N.A.	0.9928	N.A.	0.9849	N.A.
MEMPHIS, TN-AR	0.1209	0.1646	0.3956	0.4736	0.7981	0.7702
MERIDEN, CT	0.9206	N.A.	0.9814	N.A.	0.9883	N.A.
MIAMI, FL	0.1956	0.1503	0.5033	0.7584	0.9767	0.9528
MIDLAND, TX	0.4723	N.A.	0.9790	N.A.	0.9925	N.A.
MILWAUKEE, WI	0.2265	0.3242	0.5711	0.9741	0.9829	0.9905
MINNEAPOLIS-ST PAUL, MN	0.5312	0.6427	0.9718	0.9168	0.9740	0.9816
MOBILE, AL	0.1884	N.A.	0.5416	N.A.	0.8394	N.A.
MODESTO, CA	0.9385	N.A.	0.9479	N.A.	0.9768	N.A.
MONROE, LA	0.1538	N.A.	0.6354	N.A.	0.9223	N.A.
MONTGOMERY, AL	0.2540	0.1268	0.5551	0.5651	0.7906	0.9514
MUNCIE, IN	0.2365	0.4043	0.9750	0.9744	0.9944	0.9961
MUSKEGON-MUSKEGON HEIGHTS, MI	0.2595	N.A.	0.8718	N.A.	0.9534	N.A.
NASHVILLE-DAVIDSON, TN	0.2138	0.2375	0.6292	0.8967	0.9601	0.9634
NEW BEDFORD, MA	0.9133	N.A.	0.8202	N.A.	0.9842	N.A.
NEW BRITAIN, CT	0.8690	0.9051	0.9511	0.9603	0.9909	0.9967
NEW HAVEN, CT	0.4717	0.5913	0.8292	0.9162	0.9071	0.9498
NEW LONDON-GROTON-NORWICH, CT	0.7926	N.A.	0.9296	N.A.	0.9794	N.A.
NEW ORLEANS, LA	0.1616	0.2188	0.5496	0.5977	0.5092	0.7876
NEW YORK CITY, NY	0.3447	0.3449	0.4701	0.6210	0.7835	0.8642
NEWARK, NJ	0.2473	N.A.	0.5714	N.A.	0.8604	N.A.
NEWPORT NEWS-HAMPTON, VA	0.1729	N.A.	0.5867	N.A.	0.8483	N.A.
NORFOLK-PORTSMOUTH, VA	0.1537	0.1566	0.4155	0.5536	0.8454	0.7973
NORWALK, CT	0.6479	N.A.	0.9464	N.A.	0.9883	N.A.
ODESSA, TX	0.5546	0.5859	0.9945	0.9921	0.9959	0.9992
OGDEN, UT	0.7649	0.8085	0.9676	0.9899	0.9796	0.9822

OKLAHOMA CITY, OK	0.1641	N.A.	0.3268	N.A.	0.7139	N.A.
OMAHA, NE-IA	0.3021	0.3635	0.9555	0.9866	0.9809	0.9476
ORLANDO, FL	0.2405	N.A.	0.7319	N.A.	0.7627	N.A.
OXNARD-VENTURA, CA	0.8305	N.A.	0.9413	N.A.	0.9631	N.A.
PATERSON-CLIFTON-PASSAIC, NJ	0.4688	N.A.	0.8878	N.A.	0.6484	N.A.
PENSACOLA, FL	0.3239	N.A.	0.7981	N.A.	0.8284	N.A.
PEORIA, IL	0.4125	0.5194	0.9713	0.9758	0.9677	0.9525
PHILADELPHIA, PA-NJ	0.2393	N.A.	0.5018	N.A.	0.7536	N.A.
PHOENIX, AZ	0.5528	0.5637	0.9336	0.9807	0.9744	0.9864
PINE BLUFF, AR	0.3235	N.A.	0.2677	N.A.	0.8391	N.A.
PITTSBURGH, PA	0.3701	0.4450	0.7571	0.6270	0.8823	0.9564
PITTSFIELD, MA	0.8780	N.A.	0.9869	N.A.	0.9914	N.A.
PORTLAND, ME	0.9802	0.9766	0.9973	0.9958	0.9973	0.9985
PORTLAND, OR-WA	0.4662	0.4839	0.7594	0.9162	0.9708	0.9192
PROVIDENCE-PAWTUCKET-WARWICK, RI-MA	0.5900	0.7736	0.8389	0.9760	0.9805	0.9795
PROVO-OREM, UT	0.9528	N.A.	0.9954	N.A.	0.9979	N.A.
PUEBLO, CO	0.9210	0.9126	0.9603	0.9864	0.9847	0.9830
RACINE, WI	0.5691	N.A.	0.9571	N.A.	0.9846	N.A.
RALEIGH, NC	0.3244	0.3112	0.6528	0.7322	0.9183	0.8871
READING, PA	0.7703	0.8573	0.9690	0.9927	0.9820	0.9867
RENO, NV	0.9568	N.A.	0.9297	N.A.	0.8596	N.A.
RICHMOND, VA	0.1679	0.1612	0.5324	0.6479	0.8661	0.8744
ROANOKE, VA	0.2650	N.A.	0.8809	N.A.	0.9838	N.A.
ROCHESTER, MN	0.9845	N.A.	0.9933	N.A.	0.9880	N.A.
ROCHESTER, NY	0.4121	0.5375	0.8622	0.9731	0.9803	0.9966
ROCKFORD, IL	0.5743	0.6549	0.8602	0.9662	0.9887	0.9944
SACRAMENTO, CA	0.6285	0.6552	0.8149	0.9344	0.7851	0.8679
SAGINAW, MI	0.3039	0.3812	0.8162	0.9467	0.9890	0.9877
ST JOSEPH, MO	0.9771	N.A.	0.9758	N.A.	0.9703	N.A.
ST LOUIS, MO-IL	0.1552	0.1904	0.6330	0.8017	0.7875	0.8833
SALEM, OR	0.9720	N.A.	0.9687	N.A.	0.9778	N.A.

SALINAS-MONTEREY, CA	0.5618	N.A.	0.9398	N.A.	0.9482	N.A.
SALT LAKE CITY, UT	0.9048	0.9172	0.9754	0.9843	0.9765	0.9884
SAN ANGELO, TX	0.4565	N.A.	0.9675	N.A.	0.9785	N.A.
SAN ANTONIO, TX	0.3852	0.4860	0.9179	0.6101	0.9496	0.9269
SAN BERNARDINO-RIVERSIDE-ONTARIO, CA	0.6474	0.6891	0.8555	0.8504	0.9222	0.8772
SAN DIEGO, CA	0.4364	0.5321	0.5089	0.7856	0.9602	0.9560
SAN FRANCISCO-OAKLAND, CA	0.3257	0.3963	0.6245	0.7966	0.8413	0.8077
SAN JOSE, CA	0.9815	0.9125	0.9140	0.9331	0.9385	0.9672
SANTA BARBARA, CA	0.9931	0.8871	0.9562	0.9689	0.9629	0.9673
SANTA ROSA, CA	0.9087	N.A.	0.9699	N.A.	0.9703	N.A.
SAVANNAH, GA	0.1043	0.1667	0.7884	0.7588	0.9150	0.9097
SCRANTON, PA	0.8811	N.A.	0.9941	N.A.	0.9782	N.A.
SEATTLE-EVERETT, WA	0.3719	0.3949	0.8155	0.5373	0.6569	0.7312
SHERMAN-DENISON, TX	0.7306	N.A.	0.7215	N.A.	0.9515	N.A.
SHREVEPORT, LA	0.1305	0.1680	0.5413	0.6656	0.8501	0.8441
SIOUX CITY, IA-NE	0.9812	N.A.	0.9873	N.A.	0.9797	N.A.
SIOUX FALLS, SD	0.9434	N.A.	0.9938	N.A.	0.9951	N.A.
SOUTH BEND, IN	0.4946	0.5454	0.8671	0.7472	0.9738	0.9772
SPOKANE, WA	0.8742	0.8467	0.9232	0.8347	0.9775	0.9961
SPRINGFIELD, IL	0.6007	N.A.	0.9832	N.A.	0.9826	N.A.
SPRINGFIELD, MO	0.9631	0.9626	0.9323	0.8669	0.0	0.9843
SPRINGFIELD, OH	0.4760	0.5497	0.8713	0.8530	0.9648	0.9584
SPRINGFIELD-CHICOPEE-HOLYOKE, MA-CT	0.5548	N.A.	0.9790	N.A.	0.9428	N.A.
STAMFORD, CT	0.6485	0.7916	0.9387	0.9510	0.9806	0.9780
STEUBENVILLE-WEIRTON, OH-WV	0.5471	0.7501	0.9818	0.9463	0.8069	0.7938
STOCKTON, CA	0.5653	0.6177	0.9283	0.7508	0.9474	0.9674
SYRACUSE, NY	0.5283	0.4925	0.9224	0.9708	0.9648	0.9870
TACOMA, WA	0.6631	0.7566	0.9004	0.9812	0.9518	0.9880
TALLAHASSEE, FL	0.2565	N.A.	0.7128	N.A.	0.7576	N.A.
TAMPA-ST PETERSBURG, FL	0.2097	0.3144	0.7203	0.6540	0.9762	0.8982
TERRE HAUTE, IN	0.7453	N.A.	0.9440	N.A.	0.9606	N.A.

TEXARKANA, TX-AR	0.4620	N.A.	0.6704	N.A.	0.8290	N.A.
TOLEDO, OH-MI	0.3184	0.2900	0.6472	0.8890	0.8842	0.9424
TOPEKA, KS	0.6996	0.7479	0.8986	0.6978	0.9025	0.9408
TRENTON, NJ	0.3711	N.A.	0.8328	N.A.	0.8591	N.A.
TUCSON, AZ	0.7311	0.6789	0.9070	0.7810	0.9858	0.9497
TULSA, OK	0.2049	N.A.	0.5968	N.A.	0.9189	N.A.
TUSCALOOSA, AL	0.2918	N.A.	0.7332	N.A.	0.9094	N.A.
TYLER, TX	0.3395	0.3228	0.4321	0.7440	0.8645	0.9095
UTICA-ROME, NY	0.7493	0.5953	0.9378	0.8990	0.9855	0.9829
VALLEJO-NAPA, CA	0.7066	N.A.	0.4811	N.A.	0.6901	N.A.
VINELAND-MILLVILLE-BRIDGETON, NJ	0.4744	N.A.	0.6686	N.A.	0.9308	N.A.
WACO, TX	0.3335	0.3782	0.8180	0.8555	0.9385	0.9599
WASHINGTON, DC-MD-VA	0.1365	0.1701	0.4410	0.6013	0.7496	0.8354
WATERBURY, CT	0.6629	0.8103	0.9589	0.9351	0.9699	0.9909
WATERLOO, IA	0.4332	0.3923	0.8346	0.9289	0.9953	0.9650
WEST PALM BEACH, FL	0.2273	N.A.	0.4805	N.A.	0.9318	N.A.
WHEELING, WV-OH	0.9262	N.A.	0.9785	N.A.	0.9659	N.A.
WICHITA, KS	0.2012	0.2812	0.6918	0.9956	0.7670	0.7571
WICHITA FALLS, TX	0.2563	N.A.	0.7351	N.A.	0.9868	N.A.
WILKES-BARRE--HAZLETON, PA	0.9505	0.9955	0.9263	0.9440	0.9730	0.9803
WILMINGTON, DE-NJ-MD	0.3675	N.A.	0.6314	N.A.	0.8516	N.A.
WILMINGTON, NC	0.2541	N.A.	0.7268	N.A.	0.9349	N.A.
WORCESTER, MA	0.9027	0.9386	0.9782	0.9942	0.9879	0.9971
YORK, PA	0.5673	N.A.	0.9763	N.A.	0.9712	N.A.
YOUNGSTOWN-WARREN, OH	0.4163	N.A.	0.8786	N.A.	0.8681	N.A.

TABLE B.3. WHITE EXPOSURE TO BLACKS, BY NEIGHBORHOOD TYPE

	LOW INCOME TRACTS 1970	LOW INCOME TRACTS 1960	MIDDLE INCOME TRACTS 1970	MIDDLE INCOME TRACTS 1960	HIGH INCOME TRACTS 1970	HIGH INCOME TRACTS 1960
ABILENE, TX	0.3567	N.A.	0.0569	N.A.	0.0143	N.A.
AKRON, OH	0.1092	0.0979	0.0151	0.0371	0.0092	0.0023
ALBANY, GA	0.5386	N.A.	0.1421	N.A.	0.0186	N.A.
ALBANY-SCHENECTADY-TROY, NY	0.0577	0.0497	0.0086	0.0082	0.0066	0.0029
ALBUQUERQUE, NM	0.0594	0.0519	0.0111	0.0135	0.0082	0.0027
ALLENTOWN-BETHLEHEM-EASTON, PA-NJ	0.0251	N.A.	0.0031	N.A.	0.0046	N.A.
ALTOONA, PA	0.0191	N.A.	0.0022	N.A.	0.0004	N.A.
AMARILLO, TX	0.0336	N.A.	0.0147	N.A.	0.0009	N.A.
ANAHEIM-SANTA ANA-GARDEN GROVE, CA	0.0145	N.A.	0.0026	N.A.	0.0012	N.A.
ANDERSON, IN	0.0535	N.A.	0.0158	N.A.	0.0060	N.A.
ANN ARBOR, MI	0.1320	0.0758	0.0344	0.0193	0.0367	0.0177
APPLETON-OSHKOSH, WI	0.0006	N.A.	0.0003	N.A.	0.0007	N.A.
ASHEVILLE, NC	0.0698	N.A.	0.0406	N.A.	0.0305	N.A.
ATLANTA, GA	0.1693	0.2163	0.0468	0.0653	0.0183	0.0219
ATLANTIC CITY, NJ	0.1362	N.A.	0.0658	N.A.	0.0182	N.A.
AUGUSTA, GA-SC	0.3578	N.A.	0.1299	N.A.	0.0768	N.A.
AUSTIN, TX	0.1499	0.1678	0.0241	0.0567	0.0188	0.0086
BAKERSFIELD, CA	0.0651	0.0743	0.0250	0.0283	0.0066	0.0044
BALTIMORE, MD	0.1298	0.1666	0.0517	0.0451	0.0398	0.0282
BATON ROUGE, LA	0.2719	0.5449	0.1328	0.1228	0.0241	0.0449
BAY CITY, MI	0.0096	N.A.	0.0070	N.A.	0.0010	N.A.
BEAUMONT-PORT ARTHUR-ORANGE, TX	0.3255	N.A.	0.0173	N.A.	0.0209	N.A.
BILLINGS, MT	0.0043	N.A.	0.0023	N.A.	0.0003	N.A.
BILOXI-GULFPORT, MS	0.3344	N.A.	0.0884	N.A.	0.0223	N.A.
BINGHAMTON, NY-PA	0.0120	0.0122	0.0065	0.0019	0.0059	0.0007
BIRMINGHAM, AL	0.2925	0.4430	0.1768	0.2009	0.0287	0.0464
BLOOMINGTON-NORMAL, IL	0.0417	N.A.	0.0074	N.A.	0.0082	N.A.

BOISE CITY, ID	0.0069	N.A.	0.0005	N.A.	0.0002	N.A.
BOSTON, MA	0.0467	0.0396	0.0078	0.0056	0.0059	0.0030
BRIDGEPORT, CT	0.1402	0.1205	0.0146	0.0098	0.0051	0.0068
BRISTOL, CT	0.0039	N.A.	0.0098	N.A.	0.0112	N.A.
BROCKTON, MA	0.0293	0.0231	0.0105	0.0047	0.0095	0.0041
BROWNSVILLE-HARLINGEN-SAN BENITO, TX	0.0037	N.A.	0.0067	N.A.	0.0016	N.A.
BRYAN-COLLEGE STATION, TX	0.2374	N.A.	0.0749	N.A.	0.0329	N.A.
BUFFALO, NY	0.0741	0.0782	0.0052	0.0041	0.0058	0.0047
CANTON, OH	0.1015	0.0946	0.0070	0.0102	0.0028	0.0019
CEDAR RAPIDS, IA	0.0164	N.A.	0.0028	N.A.	0.0038	N.A.
CHAMPAIGN-URBANA, IL	0.0924	N.A.	0.0169	N.A.	0.0239	N.A.
CHARLESTON, SC	0.4055	0.6316	0.1387	0.2021	0.1064	0.0560
CHARLESTON, WV	0.0579	N.A.	0.0519	N.A.	0.0180	N.A.
CHARLOTTE, NC	0.2645	0.2834	0.0884	0.0579	0.0173	0.0128
CHATTANOOGA, TN-GA	0.1393	N.A.	0.0249	N.A.	0.0462	N.A.
CHICAGO, IL	0.0709	0.0819	0.0241	0.0394	0.0089	0.0053
CINCINNATI, OH-KY-IN	0.0636	N.A.	0.0240	N.A.	0.0234	N.A.
CLEVELAND, OH	0.0964	0.1035	0.0150	0.0172	0.0120	0.0021
COLORADO SPRINGS, CO	0.0751	0.0695	0.0258	0.0276	0.0122	0.0069
COLUMBIA, MO	0.0519	N.A.	0.0244	N.A.	0.0123	N.A.
COLUMBIA, SC	0.2717	0.4404	0.1368	0.1550	0.0294	0.0420
COLUMBUS, GA-AL	0.2990	0.2948	0.1796	0.1766	0.0665	0.0536
COLUMBUS, OH	0.1215	0.1475	0.0247	0.0287	0.0080	0.0041
CORPUS CHRISTI, TX	0.0556	0.0655	0.0215	0.0268	0.0021	0.0016
DALLAS, TX	0.1128	0.1349	0.0248	0.0279	0.0033	0.0064
DAVENPORT-ROCK ISLAND-MOLINE, IA-IL	0.0568	N.A.	0.0052	N.A.	0.0036	N.A.
DAYTON, OH	0.0549	N.A.	0.0172	N.A.	0.0159	N.A.
DECATUR, IL	0.1651	0.3694	0.0159	0.0462	0.0176	0.0153
DENVER, CO	0.0323	0.0374	0.0121	0.0059	0.0043	0.0023
DES MOINES, IA	0.0596	0.0720	0.0058	0.0071	0.0051	0.0014
DETROIT, MI	0.1501	0.1665	0.0156	0.0110	0.0082	0.0033

DUBUQUE, IA	0.3021	N.A.	0.0012	N.A.	0.0018	N.A.
DULUTH-SUPERIOR, MN-WI	0.3069	N.A.	0.0022	N.A.	0.0025	N.A.
DURHAM, NC	0.3534	0.3502	0.1555	0.1209	0.0393	0.0874
EL PASO, TX	0.3414	0.3318	0.3179	0.0376	0.0157	0.0022
ERIE, PA	0.3706	0.3552	0.0097	0.0391	0.0031	0.0023
EUGENE, OR	0.0033	N.A.	0.0030	N.A.	0.0015	N.A.
EVANSVILLE, IN-KY	0.3622	0.0797	0.0121	0.0376	0.0050	0.0058
FALL RIVER, MA-RI	0.0042	0.0070	0.0003	0.0016	0.0006	0.0009
FARGO-MOORHEAD, ND-MN	0.3005	N.A.	0.0021	N.A.	0.0007	N.A.
FAYETTEVILLE, NC	0.3023	N.A.	0.1552	N.A.	0.0609	N.A.
FITCHBURG-LEOMINSTER, MA	0.0147	N.A.	0.0057	N.A.	0.0010	N.A.
FLINT, MI	0.1152	0.0866	0.0272	0.0103	0.0090	0.0117
FORT LAUDERDALE-HOLLYWOOD, FL	0.3527	N.A.	0.0077	N.A.	0.0024	N.A.
FORT SMITH, AR-OK	0.3745	N.A.	0.0270	N.A.	0.0071	N.A.
FORT WAYNE, IN	0.1329	0.3905	0.0038	0.0115	0.0065	0.0006
FORT WORTH, TX	0.3766	0.3683	0.0266	0.0182	0.0018	0.0036
FRESNO, CA	0.0551	0.0666	0.0103	0.0133	0.0060	0.0009
GADSDEN, AL	0.3934	0.1068	0.0812	0.1445	0.0453	0.0619
GAINESVILLE, FL	0.4548	N.A.	0.1497	N.A.	0.0263	N.A.
GALVESTON-TEXAS CITY, TX	0.3051	0.2783	0.0442	0.0703	0.0261	0.0634
GARY-HAMMOND-EAST CHICAGO, IN	0.1467	0.1141	0.0101	0.0238	0.0064	0.0017
GRAND RAPIDS, MI	0.3404	N.A.	0.0030	N.A.	0.0113	N.A.
GREAT FALLS, MT	0.3288	N.A.	0.0025	N.A.	0.0008	N.A.
GREEN BAY, WI	0.3307	N.A.	0.0005	N.A.	0.0001	N.A.
GREENSBORO--WINSTON-SALEM--HIGH POINT, NC	0.1481	0.2048	0.0595	0.0894	0.0340	0.0365
GREENVILLE, SC	0.1564	0.1767	0.1189	0.1671	0.0810	0.0881
HAMILTON-MIDDLETOWN, OH	0.3776	0.3763	0.0325	0.0108	0.0092	0.0117
HARRISBURG, PA	0.3771	0.3826	0.0214	0.0251	0.0121	0.0156
HARTFORD, CT	0.3651	0.0674	0.0270	0.0176	0.0084	0.0047
HONOLULU, HI	0.0296	0.0295	0.0089	0.0123	0.0029	0.0037
HOUSTON, TX	0.1981	0.1981	0.0583	0.0436	0.0096	0.0113

HUNTINGTON-ASHLAND, WV-KY-OH	0.3296	N.A.	0.0234	N.A.	0.0081	N.A.
HUNTSVILLE, AL	0.1697	N.A.	0.1182	N.A.	0.0415	N.A.
INDIANAPOLIS, IN	0.3954	0.1545	0.0206	0.0211	0.0264	0.0150
JACKSON, MI	0.0822	0.0623	0.0076	0.0118	0.0003	0.0018
JACKSON, MS	0.5083	N.A.	0.1485	N.A.	0.0352	N.A.
JACKSONVILLE, FL	0.1963	N.A.	0.0338	N.A.	0.0181	N.A.
JERSEY CITY, NJ	0.0931	N.A.	0.0529	N.A.	0.0173	N.A.
JOHNSTOWN, PA	0.0195	N.A.	0.0094	N.A.	0.0038	N.A.
KALAMAZOO, MI	0.0623	N.A.	0.0074	N.A.	0.0079	N.A.
KANSAS CITY, MO-KS	0.0912	N.A.	0.0224	N.A.	0.0025	N.A.
KENOSHA, WI	0.0316	N.A.	0.0134	N.A.	0.0003	N.A.
KNOXVILLE, TN	0.0665	N.A.	0.0262	N.A.	0.0086	N.A.
LAFAYETTE, LA	0.3721	N.A.	0.1408	N.A.	0.0217	N.A.
LAFAYETTE-WEST LAFAYETTE, IN	0.0189	N.A.	0.0038	N.A.	0.0029	N.A.
LAKE CHARLES, LA	0.2512	N.A.	0.1121	N.A.	0.0212	N.A.
LANCASTER, PA	0.0320	0.0256	0.0015	0.0022	0.0011	0.0039
LANSING, MI	0.0428	N.A.	0.0087	N.A.	0.0204	N.A.
LAREDO, TX	0.0009	0.0023	0.0012	0.0033	0.0097	0.0043
LAS VEGAS, NV	0.0497	N.A.	0.0092	N.A.	0.0030	N.A.
LAWRENCE-HAVERHILL, MA-NH	0.0111	N.A.	0.0035	N.A.	0.0027	N.A.
LAWTON, OK	0.0706	N.A.	0.0714	N.A.	0.0309	N.A.
LEWISTON-AUBURN, ME	0.0510	N.A.	0.0025	N.A.	0.0006	N.A.
LEXINGTON, KY	0.1750	0.2553	0.0317	0.0485	0.0144	0.0065
LIMA, OH	0.0647	0.0945	0.0092	0.0066	0.0147	0.0360
LINCOLN, NE	0.0265	N.A.	0.0042	N.A.	0.0019	N.A.
LITTLE ROCK-NORTH LITTLE ROCK, AR	0.2263	0.3200	0.0572	0.1156	0.0083	0.0179
LORAIN-ELYRIA, OH	0.1126	0.1215	0.0328	0.0185	0.0080	0.0088
LOS ANGELES-LONG BEACH, CA	0.0693	0.0665	0.0178	0.0047	0.0122	0.0040
LOUISVILLE, KY-IN	0.1548	0.1303	0.0221	0.0243	0.0106	0.0131
LOWELL, MA	0.0139	0.0068	0.0012	0.0018	0.0019	0.0014
LUBBOCK, TX	0.0729	N.A.	0.0348	N.A.	0.0014	N.A.

LYNCHBURG, VA	0.3102	N.A.	0.1520	N.A.	0.0357	N.A.
MACON, GA	0.3984	N.A.	0.1490	N.A.	0.0645	N.A.
MADISON, WI	0.3173	0.3136	0.0037	0.0030	0.0043	0.0019
MANCHESTER, NH	0.2314	0.0017	0.0023	0.0043	0.0021	0.0006
MANSFIELD, OH	0.1133	N.A.	0.0071	N.A.	0.0035	N.A.
MC ALLEN-PHARR-EDINBURG, TX	0.0032	N.A.	0.0016	N.A.	0.0017	N.A.
MEMPHIS, TN-AR	0.4593	0.5190	0.1237	0.1442	0.0304	0.0449
MERIDEN, CT	0.3492	N.A.	0.3161	N.A.	0.0068	N.A.
MIAMI, FL	0.1160	0.0981	0.0234	0.0158	0.0045	0.0089
MIDLAND, TX	0.2349	N.A.	0.0058	N.A.	0.0010	N.A.
MILWAUKEE, WI	0.0587	0.0575	0.0076	0.0019	0.0033	0.0008
MINNEAPOLIS-ST PAUL, MN	0.0256	0.0248	0.0029	0.0027	0.0030	0.0009
MOBILE, AL	0.2935	N.A.	0.1421	N.A.	0.0329	N.A.
MODESTO, CA	0.0186	N.A.	0.0044	N.A.	0.0014	N.A.
MONROE, LA	0.2657	N.A.	0.0972	N.A.	0.0153	N.A.
MONTGOMERY, AL	0.4608	0.4938	0.2463	0.2233	0.0526	0.0213
MUNCIE, IN	0.0479	0.0621	0.0066	0.0039	0.0018	0.0014
MUSKEGON-MUSKEGON HEIGHTS, MI	0.1294	N.A.	0.0187	N.A.	0.0067	N.A.
NASHVILLE-DAVIDSON, TN	0.1534	0.2004	0.0560	0.0359	0.0156	0.0167
NEW BEDFORD, MA	0.0523	N.A.	0.0218	N.A.	0.0058	N.A.
NEW BRITAIN, CT	0.0590	0.0404	0.0191	0.0252	0.0038	0.0017
NEW HAVEN, CT	0.1778	0.1493	0.0351	0.0142	0.0201	0.0121
NEW LONDON-GROTON-NORWICH, CT	0.0573	N.A.	0.0209	N.A.	0.0095	N.A.
NEW ORLEANS, LA	0.3538	0.3562	0.1254	0.1419	0.0259	0.0540
NEW YORK CITY, NY	0.2324	0.1303	0.0492	0.0293	0.0189	0.0152
NEWARK, NJ	0.2127	N.A.	0.0395	N.A.	0.0205	N.A.
NEWPORT NEWS-HAMPTON, VA	0.2673	N.A.	0.0742	N.A.	0.0620	N.A.
NORFOLK-PORTSMOUTH, VA	0.1637	0.2471	0.0614	0.0772	0.0449	0.0379
NORWALK, CT	0.1902	N.A.	0.0262	N.A.	0.0056	N.A.
ODESSA, TX	0.3733	0.3926	0.0015	0.0016	0.0007	0.0002
OGDEN, UT	0.3335	0.3396	0.0041	0.0304	0.0012	0.0016

OKLAHOMA CITY, OK	0.0421	N.A.	0.0164	N.A.	0.0069	N.A.
OMAHA, NE-IA	0.0695	0.0697	0.0110	0.0020	0.0041	0.0035
ORLANDO, FL	0.1409	N.A.	0.0318	N.A.	0.0134	N.A.
OXNARD-VENTURA, CA	0.0336	N.A.	0.0068	N.A.	0.0036	N.A.
PATERSON-CLIFTON-PASSAIC, NJ	0.0734	N.A.	0.0127	N.A.	0.0114	N.A.
PENSACOLA, FL	0.2540	N.A.	0.0970	N.A.	0.0258	N.A.
PEORIA, IL	0.0538	0.0539	0.0022	0.0031	0.0103	0.0053
PHILADELPHIA, PA-NJ	0.1540	N.A.	0.0394	N.A.	0.0262	N.A.
PHOENIX, AZ	0.0528	0.0664	0.0092	0.0017	0.0028	0.0009
PINE BLUFF, AR	0.5819	N.A.	0.2520	N.A.	0.0453	N.A.
PITTSBURGH, PA	0.0772	0.0820	0.0212	0.0295	0.0114	0.0071
PITTSFIELD, MA	0.0313	N.A.	0.0035	N.A.	0.0051	N.A.
PORTLAND, ME	0.0052	0.0071	0.0006	0.0016	0.0003	0.0006
PORTLAND, OR-WA	0.0277	0.0242	0.0099	0.0077	0.0030	0.0044
PROVIDENCE-PAWTUCKET-WARWICK, RI-MA	0.0406	0.0366	0.0057	0.0037	0.0042	0.0037
PROVO-OREM, UT	0.0002	N.A.	0.0001	N.A.	0.0003	N.A.
PUEBLO, CO	0.0301	0.0224	0.0099	0.0253	0.0053	0.0033
RACINE, WI	0.1265	N.A.	0.0133	N.A.	0.0061	N.A.
RALEIGH, NC	0.2836	0.3857	0.1151	0.1665	0.0302	0.0275
READING, PA	0.0455	0.0406	0.0042	0.0020	0.0037	0.0020
RENO, NV	0.0386	N.A.	0.0096	N.A.	0.0007	N.A.
RICHMOND, VA	0.2241	0.2477	0.0830	0.0869	0.0250	0.0360
ROANOKE, VA	0.1381	N.A.	0.0365	N.A.	0.0093	N.A.
ROCHESTER, MN	0.0008	N.A.	0.0004	N.A.	0.0029	N.A.
ROCHESTER, NY	0.0615	0.0712	0.0204	0.0042	0.0054	0.0009
ROCKFORD, IL	0.1017	0.0724	0.0116	0.0172	0.0022	0.0014
SACRAMENTO, CA	0.0650	0.0718	0.0236	0.0048	0.0166	0.0066
SAGINAW, MI	0.1386	0.1321	0.0338	0.0158	0.0016	.0.0034
ST JOSEPH, MO	0.0529	N.A.	0.0041	N.A.	0.0101	N.A.
ST LOUIS, MO-IL	0.1003	0.1176	0.0317	0.0179	0.0172	0.0113
SALEM, OR	0.0011	N.A.	0.0038	N.A.	0.0010	N.A.

SALINAS-MONTEREY, CA	0.3588	N.A.	0.0132	N.A.	0.0037	N.A.
SALT LAKE CITY, UT	0.0130	0.0113	0.0014	0.0009	0.0008	0.0005
SAN ANGELO, TX	0.3508	N.A.	0.0089	N.A.	0.0062	N.A.
SAN ANTONIO, TX	0.0682	0.0611	0.0246	0.0416	0.0074	0.0101
SAN BERNARDINO-RIVERSIDE-ONTARIO, CA	0.0660	0.0557	0.0215	0.0212	0.0134	0.0081
SAN DIEGO, CA	0.0473	0.0399	0.0178	0.0169	0.0033	0.0015
SAN FRANCISCO-OAKLAND, CA	0.1230	0.1227	0.0215	0.0107	0.0138	0.0071
SAN JOSE, CA	0.0311	0.0121	0.0114	0.0039	0.0051	0.0019
SANTA BARBARA, CA	0.0435	0.0327	0.0102	0.0058	0.0083	0.0024
SANTA ROSA, CA	0.0154	N.A.	0.0049	N.A.	0.0050	N.A.
SAVANNAH, GA	0.5895	0.5798	0.1316	0.1435	0.0318	0.0334
SCRANTON, PA	0.0071	N.A.	0.0007	N.A.	0.0020	N.A.
SEATTLE-EVERETT, WA	0.0241	0.0235	0.0077	0.0057	0.0134	0.0082
SHERMAN-DENISON, TX	0.0930	N.A.	0.0763	N.A.	0.0310	N.A.
SHREVEPORT, LA	0.2923	0.5422	0.1186	0.1187	0.0262	0.0364
SIOUX CITY, IA-NE	0.0194	N.A.	0.0019	N.A.	0.0038	N.A.
SIOUX FALLS, SD	0.0030	N.A.	0.0018	N.A.	0.0007	N.A.
SOUTH BEND, IN	0.1024	0.0905	0.0216	0.0232	0.0057	0.0028
SPOKANE, WA	0.0193	0.0144	0.0100	0.0124	0.0024	0.0005
SPRINGFIELD, IL	0.0919	N.A.	0.0055	N.A.	0.0047	N.A.
SPRINGFIELD, MO	0.0279	0.0155	0.0098	0.0231	0.0	0.0046
SPRINGFIELD, OH	0.1208	0.1575	0.0323	0.0457	0.0074	0.0138
SPRINGFIELD-CHICOPEE-HOLYOKE, MA-CT	0.0755	N.A.	0.0046	N.A.	0.0070	N.A.
STAMFORD, CT	0.1614	0.1154	0.0168	0.0129	0.0102	0.0146
STEUBENVILLE-WEIRTON, OH-WV	0.0616	0.0730	0.0080	0.0149	0.0281	0.0168
STOCKTON, CA	0.1046	0.0933	0.0060	0.0113	0.0067	0.0008
SYRACUSE, NY	0.0542	0.0289	0.0086	0.0055	0.0054	0.0031
TACOMA, WA	0.0669	0.0521	0.0154	0.0040	0.0094	0.0008
TALLAHASSEE, FL	0.2047	N.A.	0.1291	N.A.	0.0778	N.A.
TAMPA-ST PETERSBURG, FL	0.0762	0.1332	0.0333	0.0179	0.0028	0.0075
TERRE HAUTE, IN	0.0491	N.A.	0.0151	N.A.	0.0061	N.A.

TEXARKANA, TX-AR	0.2178	N.A.	0.2107	N.A.	0.1018	N.A.
TOLEDO, OH-MI	0.0796	0.0985	0.0187	0.0095	0.0060	0.0051
TOPEKA, KS	0.1348	0.1193	0.0404	0.0462	0.0060	0.0090
TRENTON, NJ	0.2294	N.A.	0.0536	N.A.	0.0529	N.A.
TUCSON, AZ	0.0458	0.0478	0.0221	0.0145	0.0032	0.0077
TULSA, OK	0.0563	N.A.	0.0200	N.A.	0.0030	N.A.
TUSCALOOSA, AL	0.2371	N.A.	0.2000	N.A.	0.0719	N.A.
TYLER, TX	0.2126	0.3993	0.1819	0.1954	0.0512	0.0067
UTICA-ROME, NY	0.0410	0.0190	0.0136	0.0073	0.0033	0.0035
VALLEJO-NAPA, CA	0.0916	N.A.	0.0361	N.A.	0.0190	N.A.
VINELAND-MILLVILLE-BRIDGETON, NJ	0.1625	N.A.	0.0927	N.A.	0.0408	N.A.
WACO, TX	0.2055	0.2394	0.0809	0.0845	0.0064	0.0081
WASHINGTON, DC-MD-VA	0.1762	0.2287	0.0645	0.0716	0.0261	0.0193
WATERBURY, CT	0.0974	0.1003	0.0113	0.0056	0.0099	0.0049
WATERLOO, IA	0.0625	0.0462	0.0225	0.0163	0.0011	0.0029
WEST PALM BEACH, FL	0.0721	N.A.	0.0130	N.A.	0.0149	N.A.
WHEELING, WV-OH	0.0370	N.A.	0.0106	N.A.	0.0123	N.A.
WICHITA, KS	0.0458	0.0521	0.0113	0.0034	0.0078	0.0106
WICHITA FALLS, TX	0.0439	N.A.	0.0253	N.A.	0.0046	N.A.
WILKES-BARRE--HAZLETON, PA	0.0034	0.0036	0.0069	0.0047	0.0059	0.0037
WILMINGTON, DE-NJ-MD	0.1501	N.A.	0.0447	N.A.	0.0256	N.A.
WILMINGTON, NC	0.2367	N.A.	0.1812	N.A.	0.0399	N.A.
WORCESTER, MA	0.0235	0.0153	0.0039	0.0017	0.0026	0.0011
YORK, PA	0.0452	N.A.	0.0038	N.A.	0.0041	N.A.
YOUNGSTOWN-WARREN, OH	0.1360	N.A.	0.0202	N.A.	0.0061	N.A.

APPENDIX C

ACTUAL AND EXPECTED MEASURES OF SEGREGATION FOR INDIVIDUAL SMSAs: 1960 AND 1970

TABLE C.1. ACTUAL AND EXPECTED RATES OF EXPOSURE

	BLACK EXPOSURE TO NON-BLACKS				NON-BLACK EXPOSURE TO BLACKS			
	ACTUAL		EXPECTED		ACTUAL		EXPECTED	
	1970	1960	1970	1960	1970	1960	1970	1960
AKRON, OH*	0.4546	0.4976	0.9160	0.9162	0.0402	0.0435	0.0810	0.0800
ATLANTA, GA*	0.2145	0.2709	0.7572	0.7407	0.0616	0.0801	0.2176	0.2191
AUGUSTA, GA-SC	0.3887	N.A.	0.7023	N.A.	0.1552	N.A.	0.2803	N.A.
AUSTIN, TX*	0.4731	0.4996	0.8776	0.8587	0.0612	0.0768	0.1136	0.1320
BALTIMORE, MD*	0.2138	0.2417	0.7561	0.7711	0.0658	0.0676	0.2326	0.2152
BATON ROUGE, LA*	0.2978	0.3205	0.7303	0.6549	0.1175	0.1467	0.2763	0.2999
BEAUMONT-PORT ARTHUR-ORANGE, TX	0.3037	N.A.	0.7706	N.A.	0.0824	N.A.	0.2090	N.A.
BIRMINGHAM, AL*	0.3429	0.3364	0.6915	0.6303	0.1428	0.1778	0.2879	0.3332
BOSTON, MA	0.4127	0.5090	0.9507	0.9684	0.0197	0.0157	0.0453	0.0299
BRIDGEPORT, CT*	0.5819	0.7782	0.9211	0.9446	0.0468	0.0428	0.0741	0.0519
BUFFALO, NY	0.2270	0.3884	0.9155	0.9326	0.0252	0.0264	0.0803	0.0633
CHARLESTON, SC*	0.3[illegible]	0.3332	0.6564	0.5923	0.1798	0.1994	0.3177	0.3545
CHARLOTTE, NC*	0.3180	0.2631	0.7434	0.7099	0.0956	0.0854	0.2234	0.2305
CHATTANOOGA, TN-GA	0.3352	N.A.	0.8319	N.A.	0.0633	N.A.	0.1570	N.A.
CHICAGO, IL*	0.1414	0.1620	0.8138	0.8477	0.0303	0.0272	0.1742	0.1421
CINCINNATI, OH-KY-IN	0.3375	N.A.	0.8845	N.A.	0.0413	N.A.	0.1084	N.A.
CLEVELAND, OH*	0.1798	0.2038	0.8304	0.8480	0.0342	0.0341	0.1590	0.1417
COLUMBIA, SC*	0.3574	0.3604	0.7288	0.6621	0.1270	0.1607	0.2588	0.2953
COLUMBUS, OH*	0.3597	0.4184	0.8793	0.8774	0.0472	0.0551	0.1157	0.1156
DALLAS, TX*	0.2055	0.2796	0.8246	0.8290	0.0389	0.0475	0.1559	0.1407
DAYTON, OH	0.2375	N.A.	0.8919	N.A.	0.0283	N.A.	0.1061	N.A.
DENVER, CO	0.3885	0.4493	0.9569	0.9648	0.0165	0.0158	0.0406	0.0340
DETROIT, MI*	0.2021	0.2697	0.8110	0.8365	0.0444	0.0471	0.1780	0.1463
FLINT, MI*	0.3233	0.3117	0.8757	0.9010	0.0451	0.0337	0.1222	0.0975
FORT LAUDERDALE-HOLLYWOOD, FL	0.1257	N.A.	0.8733	N.A.	0.0179	N.A.	0.1238	N.A.
FORT WORTH, TX*	0.2677	0.2666	0.8827	0.8814	0.0324	0.0319	0.1068	0.1054

GARY-HAMMOND-EAST CHICAGO, IN*	0.1937	0.2020	0.8166	0.8429	0.0422	0.0362	0.1782	0.1512
GREENSBORO--WINSTON-SALEM--HIGH POINT, NC*	0.2918	0.3631	0.7956	0.7763	0.0723	0.0951	0.1972	0.2033
GREENVILLE, SC*	0.6612	0.6678	0.8430	0.8134	0.1171	0.1420	0.1493	0.1730
HARRISBURG, PA*	0.4943	0.5547	0.9267	0.9308	0.0362	0.0299	0.0661	0.0670
HARTFORD, CT*	0.3898	0.4951	0.9167	0.9398	0.0324	0.0286	0.0761	0.0543
HOUSTON, TX*	0.3135	0.2736	0.7917	0.7749	0.0744	0.0677	0.1878	0.1917
INDIANAPOLIS, IN*	0.2962	0.3327	0.8725	0.8487	0.0418	0.0557	0.1232	0.1422
JACKSON, MS	0.2519	N.A.	0.5913	N.A.	0.1479	N.A.	0.3469	N.A.
JACKSONVILLE, FL	0.2087	N.A.	0.7565	N.A.	0.0622	N.A.	0.2256	N.A.
JERSEY CITY, NJ	0.4639	N.A.	0.8953	N.A.	0.0542	N.A.	0.1006	N.A.
KANSAS CITY, MO-KS	0.2544	N.A.	0.6731	N.A.	0.0348	N.A.	0.1195	N.A.
KNOXVILLE, TN	0.4314	N.A.	0.9262	N.A.	0.0326	N.A.	0.0701	N.A.
LITTLE ROCK-NORTH LITTLE ROCK, AR*	0.3824	0.4342	0.9313	0.7605	0.0870	0.1181	0.1823	0.2068
LOS ANGELES-LONG BEACH, CA	0.2830	0.3478	0.8869	0.9286	0.0340	0.0256	0.1078	0.0684
LOUISVILLE, KY-IN*	0.2976	0.3862	0.8698	0.8728	0.0412	0.0500	0.1205	0.1129
MEMPHIS, TN-AR*	0.1979	0.2595	0.5946	0.5914	0.1217	0.1513	0.3658	0.3448
MIAMI, FL*	0.2345	0.1952	0.8401	0.8409	0.0415	0.0336	0.1489	0.1448
MILWAUKEE, WI	0.2634	0.3418	0.9193	0.9443	0.0216	0.0191	0.0755	0.0528
MINNEAPOLIS-ST PAUL, MN	0.6130	0.6797	0.9814	0.9854	0.0108	0.0096	0.0174	0.0139
MOBILE, AL	0.2925	N.A.	0.6635	N.A.	0.1252	N.A.	0.2926	N.A.
NASHVILLE-DAVIDSON, TN*	0.3014	0.2998	0.8095	0.7837	0.0654	0.0704	0.1757	0.1840
NEW HAVEN, CT*	0.5412	0.6340	0.8769	0.9172	0.0725	0.0538	0.1174	0.0778
NEW ORLEANS, LA*	0.2699	0.3339	0.6624	0.6644	0.1218	0.1483	0.2990	0.2951
NEW YORK CITY, NY	0.4019	0.4120	0.8264	0.8781	0.0779	0.0532	0.1601	0.1134
NEWARK, NJ	0.3153	N.A.	0.7969	N.A.	0.0728	N.A.	0.1841	N.A.
NEWPORT NEWS-HAMPTON, VA	0.2954	N.A.	0.7375	N.A.	0.1034	N.A.	0.2581	N.A.
NORFOLK-PORTSMOUTH, VA*	0.2263	0.2306	0.7262	0.7079	0.0798	0.0902	0.2562	0.2767
OKLAHOMA CITY, OK	0.2245	N.A.	0.9095	N.A.	0.0210	N.A.	0.0852	N.A.
OMAHA, NE-IA	0.3655	0.3960	0.9272	0.9379	0.0266	0.0235	0.0675	0.0571
ORLANDO, FL	0.3031	N.A.	0.8411	N.A.	0.0531	N.A.	0.1449	N.A.
PATERSON-CLIFTON-PASSAIC, NJ	0.5289	N.A.	0.9406	N.A.	0.0308	N.A.	0.0549	N.A.

PHILADELPHIA, PA-NJ	0.3130	N.A.	0.8172	N.A.	0.0665	N.A.	0.1735	N.A.
PHOENIX, AZ	0.6185	0.5916	0.9631	0.9594	0.0216	0.0232	0.0336	0.0377
PITTSBURGH, PA*	0.4537	0.5298	0.9250	0.9288	0.0345	0.0380	0.0703	0.0667
RICHMOND, VA*	0.2623	0.2521	0.7334	0.7090	0.0882	0.0891	0.2465	0.2507
ROCHESTER, NY	0.4846	0.5594	0.9302	0.9560	0.0339	0.0241	0.0652	0.0412
SACRAMENTO, CA	0.7337	0.7548	0.9519	0.9611	0.0362	0.0297	0.0466	0.0378
ST LOUIS, MO-IL*	0.2312	0.2427	0.8289	0.8421	0.0441	0.0406	0.1582	0.1410
SAN ANTONIO, TX	0.4756	0.5503	0.9311	0.9312	0.0341	0.0386	0.0667	0.0653
SAN BERNARDINO-RIVERSIDE-ONTARIO, CA	0.7337	0.7546	0.9547	0.9625	0.0329	0.0278	0.0429	0.0355
SAN DIEGO, CA	0.5231	0.6027	0.9550	0.9618	0.0237	0.0231	0.0433	0.0369
SAN FRANCISCO-OAKLAND, CA	0.4342	0.4815	0.8891	0.9106	0.0511	0.0452	0.1045	0.0855
SEATTLE-EVERETT, WA	0.5466	0.5796	0.9700	0.9739	0.0176	0.0152	0.0292	0.0255
SHREVEPORT, LA*	0.2255	0.2653	0.6435	0.6079	0.1086	0.1367	0.3123	0.3133
TAMPA-ST PETERSBURG, FL*	0.2876	0.3604	0.8872	0.8787	0.0348	0.0467	0.1075	0.1138
TOLEDO, OH-MI*	0.3731	0.3255	0.9139	0.9010	0.0336	0.0337	0.0823	0.0934
TRENTON, NJ	0.4883	N.A.	0.8279	N.A.	0.0965	N.A.	0.1636	N.A.
TULSA, OK	0.2822	N.A.	0.9090	N.A.	0.0248	N.A.	0.0799	N.A.
WASHINGTON, DC-MD-VA*	0.2213	0.2559	0.7371	0.7368	0.0719	0.0824	0.2396	0.2373
WEST PALM BEACH, FL	0.2654	N.A.	0.8157	N.A.	0.0565	N.A.	0.1735	N.A.
WICHITA, KS	0.2694	0.3216	0.9251	0.9342	0.0207	0.0203	0.0709	0.0591
WILMINGTON, DE-NJ-MD	0.4553	N.A.	0.8695	N.A.	0.0686	N.A.	0.1226	N.A.
YOUNGSTOWN-WARREN, OH	0.4666	N.A.	0.9020	N.A.	0.0489	N.A.	0.0944	N.A.

*Blacks more than 95 percent of all non-whites.

TABLE C.2. ACTUAL AND EXPECTED INDICES OF SEGREGATION: BLACK VERSUS NON-BLACKS

	ACTUAL INDEX OF SEGREGATION		INCOME CORRECTED INDEX OF SEGREGATION		EXPECTED INDEX OF SEGREGATION	
	1970	1960	1970	1960	1970	1960
AKRON, OH*	0.5052	0.4590	0.5037	0.4569	0.0029	0.0038
ATLANTA, GA*	0.7239	0.6490	0.7168	0.6343	0.0252	0.0402
AUGUSTA, GA-SC	0.4561	N.A.	0.4465	N.A.	0.0174	N.A.
AUSTIN, TX*	0.4657	0.4236	0.4609	0.4182	0.0088	0.0093
BALTIMORE, MD*	0.7204	0.6909	0.7172	0.6866	0.0113	0.0137
BATON ROUGE, LA*	0.5648	0.5328	0.5748	0.5107	0.0234	0.0453
BEAUMONT-PORT ARTHUR-ORANGE, TX	0.5139	N.A.	0.6059	N.A.	0.0204	N.A.
BIRMINGHAM, AL*	0.5143	0.4857	0.5041	0.4662	0.0206	0.0365
BOSTON, MA	0.5676	0.5253	0.5659	0.4744	0.0040	0.0017
BRIDGEPORT, CT*	0.3713	0.1790	0.3683	0.1762	0.0048	0.0034
BUFFALO, NY	0.6679	0.5953	0.6865	0.5836	0.0043	0.0041
CHARLESTON, SC*	0.4488	0.4673	0.4342	0.4374	0.0259	0.0533
CHARLOTTE, NC*	0.5264	0.4515	0.5722	0.6294	0.0332	0.0596
CHATTANOOGA, TN-GA	0.6015	N.A.	0.5971	N.A.	0.0110	N.A.
CHICAGO, IL*	0.8283	0.8108	0.8263	0.8048	0.0121	0.0102
CINCINNATI, OH-KY-IN	0.6212	N.A.	0.6184	N.A.	0.0071	N.A.
CLEVELAND, OH*	0.7669	0.7621	0.7847	0.7595	0.0106	0.0104
COLUMBIA, SC*	0.5156	0.4789	0.5095	0.4558	0.0124	0.0426
COLUMBUS, OH*	0.5941	0.5264	0.5920	0.5231	0.0049	0.0069
DALLAS, TX*	0.7556	0.6729	0.7507	0.6627	0.0195	0.0302
DAYTON, OH	0.7342	N.A.	0.7337	N.A.	0.0019	N.A.
DENVER, CO	0.5950	0.5349	0.5940	0.5343	0.0025	0.0012
DETROIT, MI*	0.7535	0.6932	0.7508	0.6784	0.0110	0.0152
FLINT, MI*	0.6316	0.6545	0.6309	0.6540	0.0021	0.0015
FORT LAUDERDALE-HOLLYWOOD, FL	0.3564	N.A.	0.4556	N.A.	0.0059	N.A.
FORT WORTH, TX*	0.6999	0.7015	0.6967	0.6975	0.0105	0.0132

GARY-HAMMOND-EAST CHICAGO, IN*	0.7641	0.7618	0.7634	0.7603	0.0032	0.0059
GREENSBORO--WINSTON-SALEM--HIGH POINT, NC*	0.6358	0.5419	0.6332	0.5323	0.0072	0.0204
GREENVILLE, SC*	0.2216	0.1902	0.2156	0.1790	0.0077	0.0137
HARRISBURG, PA*	0.4496	0.4054	0.4481	0.4041	0.0031	0.0022
HARTFORD, CT*	0.5778	0.4763	0.5748	0.4732	0.0071	0.0059
HOUSTON, TX*	0.5121	0.6569	0.6040	0.6470	0.0205	0.0334
INDIANAPOLIS, IN*	0.6619	0.6116	0.6605	0.6090	0.0043	0.0091
JACKSON, MS	0.6002	N.A.	0.5737	N.A.	0.0621	N.A.
JACKSONVILLE, FL	0.7293	N.A.	0.7241	N.A.	0.0179	N.A.
JERSEY CITY, NJ	0.4619	N.A.	0.4613	N.A.	0.0011	N.A.
KANSAS CITY, MO-KS	0.7107	N.A.	0.7086	N.A.	0.0074	N.A.
KNOXVILLE, TN	0.5359	N.A.	0.5342	N.A.	0.0038	N.A.
LITTLE ROCK-NORTH LITTLE ROCK, AR*	0.5306	0.4477	0.5228	0.4290	0.0164	0.0328
LOS ANGELES-LONG BEACH, CA	0.6659	0.6265	0.6643	0.6254	0.0053	0.0030
LOUISVILLE, KY-IN*	0.6612	0.5639	0.5578	0.5576	0.0092	0.0143
MEMPHIS, TN-AR*	0.6804	0.5892	0.6672	0.5611	0.0396	0.0639
MIAMI, FL*	0.7240	0.7712	0.7209	0.7678	0.0111	0.0143
MILWAUKEE, WI	0.7149	0.6391	0.7134	0.6380	0.0055	0.0029
MINNEAPOLIS-ST PAUL, MN	0.3792	0.3107	0.3785	0.3102	0.0012	0.0007
MOBILE, AL	0.5822	N.A.	0.5720	N.A.	0.0239	N.A.
NASHVILLE-DAVIDSON, TN*	0.6331	0.6299	0.6276	0.6175	0.0148	0.0323
NEW HAVEN, CT*	0.3863	0.3123	0.3827	0.3088	0.0057	0.0050
NEW ORLEANS, LA*	0.6083	0.5178	0.5926	0.4974	0.0387	0.0405
NEW YORK CITY, NY	0.5203	0.5348	0.5137	0.5309	0.0135	0.0084
NEWARK, NJ	0.5119	N.A.	0.6044	N.A.	0.0190	N.A.
NEWPORT NEWS-HAMPTON, VA	0.6013	N.A.	0.5995	N.A.	0.0044	N.A.
NORFOLK-PORTSMOUTH, VA*	0.6939	0.6790	0.6884	0.6740	0.0177	0.0154
OKLAHOMA CITY, OK	0.7544	N.A.	0.7531	N.A.	0.0053	N.A.
OMAHA, NE-IA	0.6079	0.5905	0.6058	0.5885	0.0053	0.0049
ORLANDO, FL	0.6388	N.A.	0.6336	N.A.	0.0140	N.A.
PATERSON-CLIFTON-PASSAIC, NJ	0.4403	N.A.	0.4377	N.A.	0.0045	N.A.

PHILADELPHIA, PA-NJ	0.6205	N.A.	0.6170	N.A.	0.0093	N.A.
PHOENIX, AZ	0.3599	0.3852	0.3578	0.3834	0.0033	0.0029
PITTSBURGH, PA*	0.5118	0.4322	0.5095	0.4298	0.0047	0.0045
RICHMOND, VA*	0.6495	0.6598	0.6423	0.6445	0.0250	0.0403
ROCHESTER, NY	0.4918	0.4165	0.4790	0.4149	0.0047	0.0028
SACRAMENTO, CA	0.2241	0.2155	0.2229	0.2146	0.0015	0.0011
ST LOUIS, MO-IL*	0.7247	0.7167	0.7211	0.7118	0.0128	0.0149
SAN ANTONIO, TX	0.4904	0.4111	0.4892	0.4091	0.0022	0.0035
SAN BERNARDINO-RIVERSIDE-ONTARIO, CA	0.2334	0.2176	0.2315	0.2160	0.0024	0.0020
SAN DIEGO, CA	0.4532	0.3742	0.4522	0.3734	0.0017	0.0014
SAN FRANCISCO-OAKLAND, CA	0.5148	0.4733	0.5116	0.4712	0.0064	0.0039
SEATTLE-EVERETT, WA	0.3958	0.4053	0.3953	0.4049	0.0008	0.0006
SHREVEPORT, LA*	0.6640	0.5979	0.6523	0.5635	0.0392	0.0788
TAMPA-ST PETERSBURG, FL*	0.6776	0.5929	0.6759	0.5899	0.0054	0.0075
TOLEDO, OH-MI*	0.5932	0.6408	0.5917	0.6388	0.0037	0.0056
TRENTON, NJ	0.4152	N.A.	0.4102	N.A.	0.0085	N.A.
TULSA, OK	0.6930	N.A.	0.6895	N.A.	0.0111	N.A.
WASHINGTON, DC-MD-VA*	0.7363	0.6617	0.6998	0.6527	0.0232	0.0260
WEST PALM BEACH, FL	0.6781	N.A.	0.6746	N.A.	0.0108	N.A.
WICHITA, KS	0.7099	0.6580	0.7088	0.6557	0.0040	0.0067
WILMINGTON, DE-NJ-MD	0.4451	N.A.	0.4401	N.A.	0.0089	N.A.
YOUNGSTOWN-WARREN, OH	0.4845	N.A.	0.4827	N.A.	0.0036	N.A.

*Blacks more than 95 percent of all non-whites.

APPENDIX D

THE IMPACT OF SPANISH-AMERICAN HOUSEHOLDS ON BLACK-WHITE MEASURES OF RESIDENTIAL SEGREGATION BY RACE

In some regions of the country, Spanish-American households are a large minority group whose presence might confuse the concept and measurement of residential segregation by race. The data presented in the text refer to the segregation of blacks and whites, where either group can include Spanish-American households. Although "Spanish-American" is not a racial category, the majority of such households are white. As a result, it might be preferable to calculate measures of segregation for the subgroup of "Anglo-Whites".

Unfortunately, census data do not allow for this modification on anything but a limited scale. Since its definition of Spanish-American households differed in 1960 and 1970, the concept of Anglo-whites could not be used for comparisons over time and thus was not used in the bulk of this analysis. Valuable insights can nevertheless be gained by examining the impact of such a modification in one particular year. Accordingly, this Appendix examines 34 SMSAs which had a large Spanish population in 1970, and compares segregation indexes based on the subgroup of Anglo-whites to those based on the entire white population.

Table D.1 shows the 1970 exposure rates of blacks and whites and the index of segregation for each definition of white; the data pertain to SMSAs in which Spanish-American households were at least 10 percent of the population. These statistics show that measures of segregation are extremely sensitive to the definition of white in areas with a large Spanish population. On average, black exposure to all whites was almost 60 percent higher than black exposure to Anglo-whites; the exposure of

all whites to blacks was about 26 percent higher than Anglo exposure to blacks; and the index of segregation for blacks versus all whites was about 17 percent lower than the index for blacks versus Anglos.

These statistics indicate that many of the whites that are found in integrated neighborhoods are Spanish-American households. Since Spanish-Americans are also an economic and cultural minority, their inclusion in the analysis will understate the segregation of blacks from the dominant white majority. Indexes of segregation in areas with a large Spanish population may thus appear unusually high.

Table D.1

1970 Indexes of Residential Segregation by Race

For All Whites and For Anglo-whites

Metropolitan Area	Percent Spanish American	Black Exposure to Whites		Whites Exposure to Blacks		Index of Segregation	
		Anglo Whites	All Whites	Anglo Whites	All Whites	Blacks Versus Anglo Whites	Blacks Versus All Whites
Albuquerque, NM	39	.453	.884	.017	.020	.215	.080
Anaheim, CA	11	.526	.812	.004	.006	.271	.161
Austin, TX	14	.266	.471	.042	.061	.619	.467
Bakersfield, CA	16	.266	.499	.020	.031	.630	.456
Brownsville, TX	78	.202	.979	.004	.004	.196	.016
Bryan-College St., TX	10	.385	.468	.071	.101	.586	.428
Corpus Christi, TX	44	.129	.629	.011	.027	.704	.339
Denver, CO	11	.217	.369	.011	.016	.715	.607
El Paso, TX	56	.445	.899	.031	.026	.226	.062
Fresno, CA	25	.202	.449	.015	.024	.675	.511
Galveston, TX	12	.312	.413	.091	.102	.536	.483
Houston, TX	10	.231	.309	.064	.074	.664	.615
Laredo, TX	86	.671	936	.019	.004	.057	.056
Los Angeles, CA	18	.134	.243	.022	.031	.799	.712
Lubbock, TX	17	.219	.420	.022	.035	.663	.543
McAllen-Pharr-Edinburg, TX	79	.199	.991	.002	.002	.055	.005
Miami, Fl.	24	.158	.232	.039	.041	.760	.725
Midland, TX	10	.229	.485	.028	.053	.649	.463
Modesto, CA	12	.682	.863	.007	.008	.153	.120
Odessa, TX	14	.089	.560	.005	.029	.776	.410
Oxnard-Ventura, CA	19	.444	.861	.010	.015	.310	.088
Phoenix, AZ	14	.316	.599	013	.021	.533	.366
Pueblo, CO	31	.486	.935	.017	.016	.137	.046
Sacramento, CA	10	.552	.686	.032	.035	.283	.235
Salinas, CA	21	.433	.620	.023	.025	.370	.293
San Angelo, TX	18	.297	.520	.016	.023	.566	.456
San Antonio, TX	44	.142	.471	.020	.034	.736	.492
San Bernardino, CA	16	.492	.717	.027	.033	.338	.238
San Diego, CA	12	.262	.468	.014	.022	.631	.481
San Francisco, CA	11	.278	.375	.041	.047	.597	.541
San Jose, CA	17	.591	.895	.013	.016	.095	.046
Santa Barbara, CA	17	.685	.910	.020	.022	.082	.048
Stockton, CA	18	.275	.616	.021	.038	.507	.274
Tucson, AZ	23	.463	.783	.019	.024	.317	.172